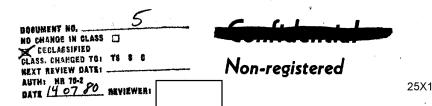
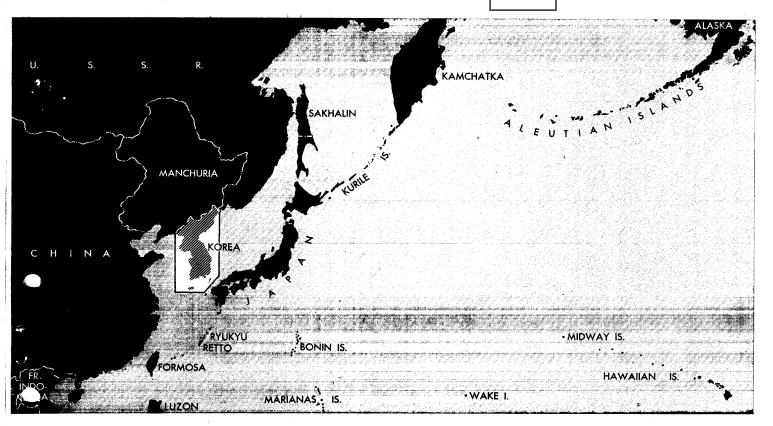
JANIS 75 CHAPTER V





JOINT ARMY-NAVY INTELLIGENCE STUDY

OF

KOREA

(INCLUDING TSUSHIMA AND QUELPART)

CLIMATE AND WEATHER

APRIL 1945

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CLIMATE AND WEATHER

50. Introduction

This chapter is limited to a discussion of the weather and climate of Korea, except where it is necessary or desirable to discuss climatic conditions over a much larger area in order to describe more clearly certain features of the climate of Korea.

Many references have been consulted in the preparation of this report and considerable synoptic data have been processed by machine tabulation. The results, although limited by the small number of reporting stations, more nearly approximate the operational requirements for military movements than the ordinary results of climatological statistics. A list of references is given at the end of this chapter.

The climate of any region varies greatly with the exposures of individual reporting stations, and the location of reporting stations should always be kept in mind in evaluating the data. Although Korea is a very mountainous country, complete data are available only for stations (with one exception) which are on or near the coast. Precipitation and temperature data are available for a much larger number of stations, located on the coastal plains or along highways or railroads which follow the numerous valleys in the interior. Conditions over the higher elevations of the country are not represented in the available data. The various local differences in climate, as shown by the data or determined by reasonable inference, are emphasized in the discussions of operational weather and climate in the following sections.

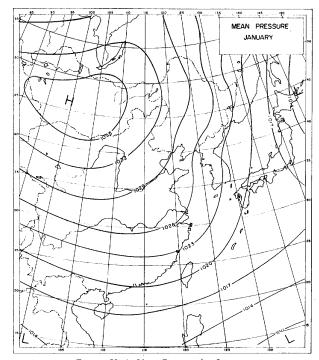


FIGURE V - 1. Mean Pressure for January.

51. Major Climatic Characteristics and Controls

The climate of Korea is *monsoonal*: a seasonal reversal of the prevailing winds materially affects other climatic elements such as temperature, precipitation, cloudiness, and humidity, and causes marked seasonal change.

In midwinter, high pressure normally overlies eastern Asia, with the highest mean pressure over Mongolia (FIGURE V - 1). The outflowing air from this high pressure area is very cold and dry. The prevailing winds are generally north to northwest over Korea, except where modified by local topography. Thus, the prevailing winds along the narrow eastern coastal belt from the Kumjin-ch'on to the Ulsan-man are westerly, while in the Amnokgang Valley they are east-northeast to northeast. Where the trajectory of the monsoon air stream is entirely over land, the skies are predominantly clear. With strong pressure gradients, dust may be carried aloft over Korea from the deserts of the Gobi and Ordos, resulting in poor visibility. With weak pressure gradients, the monsoon air stream may be shallow with moist layers aloft moving toward lower pressure over northern Japan or the Kuriles region. This condition results in widespread overcast and some light precipitation over the mountainous regions. Where the trajectory of the monsoon air stream is over water, moisture is rapidly added to the lower levels of

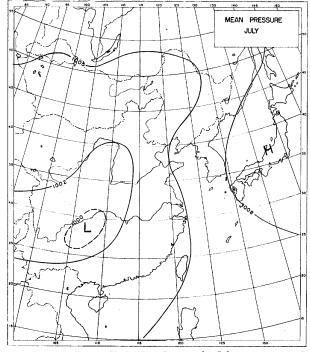


FIGURE V - 2. Mean Pressure for July.

the atmosphere, and decks of stratocumulus clouds are soon formed. These stratocumulus decks are the normal sky for the coastal regions of southwest Korea and the exposed islands such as Cheju-do, Tsushima, and Ullung-do. Light precipitation frequently occurs where the marine-modified monsoon air is forced to rise over mountains, as at Tsushima and Ullung-do.

In midsummer, low pressure overlies China and Mongolia, and southerly air streams cross the coastal regions of eastern Asia from the tropical and subtropical regions of the western Pacific towards the interior of Asia (FIGURE V - 2). The interaction between polar and maritime tropical air masses and between maritime tropical and equatorial air masses causes frequent and heavy rains in the summer. Frontal or quasi-frontal conditions, although diffuse, are so frequent in the summer that 8 to 12 inches of rainfall monthly is normal for the peninsular portions of Korea in July and August, and serious droughts are not to be expected. Midsummer is also the season of maximum cloudiness and highest humidities throughout Korea.

Spring and fall are transitional seasons marked by variable winds and changeable conditions of cloudiness, precipitation and temperature. Spring appears to be slightly more favorable for operations in the south, and autumn in the north, but the variation from year to year is much greater than the normal difference between the seasons.

Typhoons may affect Korea once or twice a year on the average and four or five times a year under extreme conditions. The typhoons are confined to the summer and early fall months in this region, and the probability of any particular region being affected in a given year is rather small. The typhoons are attended by widespread low overcast, torrential rains, wind speeds of 75 to 150 m.p.h. or more, and, in the coastal sections, by very high "following tides" which may cause extensive damage. Near the typhoon center, operations must necessarily cease for the duration of the storm, while major interference with operations may be expected some distance from the center.

Cyclonic disturbances are not as frequent across Korea as in other sections of the coastal regions of eastern Asia. Chinese meteorologists have plotted the centers of cyclones by 5° squares, and the results which apply to Korea are given in TABLE V - 1. All data are for the meridional sector of 125° to 130° E. Centers plotted 35° to 40° N. will cross Korea and affect practically the entire country. Centers plotted 40° to 45° N. will, for the most part, pass to the north of Korea across the Manchurian plain, but the trailing fronts will cause adverse weather over northern Korea. Centers plotted 30° to 35° N. will usually pass south of Korea, but some centers will cause adverse weather in southern Korea.

It is evident that the great majority of cyclonic disturbances cross Korea in the 5-month period, April through September. Of 9 disturbances plotted in central Korea, 7 occurred in that period and only 2 in the 7 months from October through March. Similarly, of 35 disturbances affecting the entire area annually, 26 occur in the period of April through September.

Disturbances which affect Korea have been further classified by Chinese meteorologists according to their trajectories. The largest number of disturbances follow a path through south Mongolia across Manchuria and northern Korea; a smaller number move across the delta plains of the Huang Ho or the Ch'ang Chiang (Yangtze River), or originate in the East China Sea and move directly across Korea. A few originate in South China and move northeastward through the Korea Strait, and a small number of Baikal *Lows* curve far enough to the south to affect northern Korea.

In evaluating climatic data it is always desirable to keep in mind the location of a station in relation to its surrounding topography. It is convenient, therefore, to use the terrain subdivisions described in Chapter II in describing the climate of Korea (FIGURE V-25). Northern Korea is a rough mountainous area, separated from Manchuria by the Tuman and Amnok Valleys. Climatological data are given in general tables for only one station (Musan) in the upper Tuman Valley, but for no station in the lower part of this valley. Data is shown for 2 stations located in the lower Amnok-gang Valley: Yongamp'o and Sinuiju, and 3 in the upper Amnok Valley: Ch'osan, Chunggangjin and Hyesanjin. Two stations are located in the uplands: Kanggye and P'ungsan, the latter at the highest elevation for which records are available (3,773 feet). In the Taebaek Range which extends southward into the peninsula are 2 stations: Huichon and Koksan. These mountains continue along the eastern portion of the peninsula as the southern Taebaek Range, and a spur which extends into southwestern Korea is called the Sobaek Range. Three stations are located in this southern mountain district—Hoeyang, Chongson, and Yongyang.

The east coast lowlands are narrow and form a distinct climatological section represented in the available data by the following stations listed from north to south: Unggi, Ch'ongjin, Songjin, Hamhung, Wonsan, Kosong, Kangnung and P'ohangdong. Between the spurs of the southern Taebaek and Sobaek Ranges is an extensive area of lowlands, the Naktong Basin, represented by 2 stations, Taegu and Pusan. Stations representative of the irregular south coast and its offshore islands include Sunch'on and Mokp'o on the coast, and Hangmun-do and Sohuksan-do on the offshore islands. Three larger islands offshore have somewhat different climates because of their greater elevations; they are: Quelpart (Cheju-do) with stations at Cheju on the north coast and Mara-do off the south coast, Tsushima with the station at Izuhara on the east coast, and Ullung-do with the station probably located on the southeast coast. Mountains on Quelpart rise to 6,400 feet, on Tsushima to 2,170 feet and on Ullung-do to 3,230 feet. These mountains interrupt moisture-bearing winds and are the cause of the heavier precipitation recorded on the larger islands.

The most extensive area is the west coast lowlands—a region of many hills, low mountains, and numerous small valleys. The coastline is very irregular and there are many small islands

					TABLI	3 V - 1							
	F	VERAG	E NUMI	BER OF	CYCLON	ES BY 5°	SQUARI	ES (1932-	1936)				
	Jan	FEB	MAR	APR	MAY	JUN	Jul	Aug	SEP	OCT	Nov	DEC	Ann
40-45° N, x 125-130° E.	0.0	0.2	0.8	0.8	1.4	2.4	1.0	1.0	0.0	0.4	0.2	0.2	8.4
35-40° N. x 125-130° E.	0.0	0.4	0.4	0.4	1.8	0.8	1.2	1.8	1.0	0.2	0.6	0.6	9.2
30-35° N. x 125-130° E.	0.6	0.8	0.8	2.4	2.4	2.0	1.8	1.6	2.2	1.0	0.8	1.2	17.6
Total:													
30-45° N. x 125-130° E.	0.6	1.4	2.0	3.6	5.6	5.2	4.0	4.4	3.2	1.6	1.6	2.0	35.2

off the coast, of which Kyongnyolbi-yolto is typical. Stations on the mainland include Chonju, Kunsan, Ch'ongju, Inch'on, Kyongsong, Haeju and P'yongyang. The climates of these terrain regions are summarized in Topic 52, following.

52. Climatic Characteristics of the Terrain Regions

A. Lower Tuman Valley.

Climatological records have been collected at Kyongwon (Keigen, elevation 272 feet) since 1918. The winter weather in this region is cold and raw with mean minimum temperatures 4°F. in January and extreme minima falling to -17°F. The minimum temperatures are not quite so extreme as in other parts of northern Korea; this feature is caused in part by the configuration of the terrain which is conducive to continuous air movement from the plateau down the valley toward the sea, with some warming by adiabatic and mixing processes. Since in this region the river flows from northwest to southeast, it is probable that strong northwest winds are very frequent in the winter season. Conditions are also favorable for a large percentage of clear skies in winter. The Tuman-gang near Sinasan is frozen, on the average, 128 days each season from November 24 to March 31. The summers are cool along the immediate coast but are quite warm in the vicinity of Kyongwon, with mean maxima of 82°F. in midsummer and extreme maxima as high as 103°F. Fog occurs 8 to 12 days monthly near the coast from May through June, but does not penetrate far upstream.

B. East Coast Lowland and Hills.

This section includes all of the narrow eastern coastlands from Unggi to south of Ulsan-man. The highest mountains, averaging 5,000 feet, are in the north from Ch'ongjin to Hamhung, 30 to 40 miles inland. Between Hamhung and Wonsan, the coastal plain widens to about 20 miles, and mountains averaging 4,000 feet rise abruptly behind it. South of Sodangjong, the coastal plain is very narrow, and the steep mountains immediately behind the coastline averaging 4,000 feet in the north, decrease to an average height of 2,000 feet south of the 37th parallel. The weather along this narrow strip varies somewhat with the local topography, and the data for coastal points may not be entirely typical of other points only a few miles distant along the coast. This is particularly true with regard to the occurrence of strong local winds which are often channelized through narrow mountain valleys and affect only narrow reaches of the coast.

Midwinter is characterized by strong offshore winds, averaging 14 m.p.h. from the north-northwest at Unggi, 6 to 7 m.p.h. from the northwest and west at Songjin and Wonsan, and 10 m.p.h. from the southwest at Kangnung. Maximum wind speeds up to 70 m.p.h. have been recorded at Unggi, and speeds of 30 to 50 m.p.h. at other localities along the coast. The higher wind speeds at Unggi reflect the lack of protection of the mountains in that area. Gale winds (over 33 m.p.h.) occur on 5 to 10 days a month at Unggi during winter. Winds aloft are prevailingly from the northwest with a high percentage of

very strong winds at all levels. The coastal regions experience a preponderance of clear weather in winter, with average cloudiness of 32% to 42%, and 12 to 16 clear days a month. Fogs are not common along the coast in winter, and visibility is generally excellent, except during periods of steep pressure gradients, when dust, carried aloft from the deserts of interior Asia, may occasionally reduce visibility to a few miles.

The amount of precipitation increases from north to south along the coast, averaging in winter less than $\frac{1}{2}$ inch monthly at Unggi, 1 to $\frac{1}{2}$ inches monthly at Wonsan, and 2 to $\frac{2}{2}$ inches at Kangnung. The frequency of precipitation varies irregularly from 3 to 4 days a month at Unggi to 6 to 8 days along the southern portions of the east coast. Light snow often occurs over the high mountains and is recorded on about 8 days monthly from Ch'ongjin to Songjin. It is improbable that the snow would accumulate on the ground to any great extent; snow depth is usually less than 1 foot along the coasts. Humidity in winter is moderately low along most of the coast, averaging 50% to 65%.

Mean minimum temperatures vary between 8° and 18°F. for the winter months along the northeast coast and between 18° and 28°F. along the southeast coast. Extreme minima vary from —12°F. at Unggi to 0°F. at P'ohang-dong. These minima are somewhat higher than those experienced in the interior and reflect the warming effect of downslope winds, the mixing caused by local winds on otherwise quiet nights, and the proximity of warmer water over the Sea of Japan.

Summer is a season of moderately high temperatures, high humidity, maximum cloudiness, and heavy rainfall. Surface winds from a southerly direction prevail and surface wind speeds average between 4 and 7 m.p.h. Maximum wind speeds of 30 to 50 m.p.h. are likely to occur, particularly late in the season or in the spring or fall months when high pressure overlies the adjacent continent and low pressure occurs over the Sea of Japan. Under these conditions, downslope winds or foehn winds occur and frequently reach gale force along natural wind channels. The foehn winds are accompanied by a remarkable increase in temperature and by low humidity. These local winds are particularly evident at Wonsan, but may occur anywhere along the east coast where downslope winds are likely to be channelized by the local topography. Winds aloft are quite variable up to 10,000 feet in summer, but westerly winds prevail at higher levels. Extreme wind speeds aloft are rare, particularly at ordinary flying levels.

Cloudiness during the summer months varies between 68% and 81%. The higher mean values occur in July, and there is a tendency for slightly greater cloudiness over the northeast coast than along the southeast coast. Clear days are relatively infrequent (1 to 4 monthly), the smaller number occurring in the north in July. Cloudy days, on the other hand, are reported 15 to 20 days a month in summer. Although ceiling data are not available for Korean stations, it may be inferred that much of the summer cloudiness is of the stratus type and that low ceilings are more frequent in that season than in any other. Fogs are quite frequent along the northeast coast, being reported 8 to 11 days monthly from May through July at Unggi and 6 to 8 days in the same season at Songjin. They are not nearly so frequent along the southeast coast, being reported only 2 days each month at Wonsan and Kangnung. The incidence of fog

drops off sharply in August; coastal fogs in this region are essentially late spring through midsummer phenomena.

The rainy season over most of Korea lasts from April through September, when about 80 % of the annual amount falls. The month with the greatest amount of rainfall is August in the northern and central sections and July in the southern section of the east coast. Six to 12 inches are normal during these months. The heaviest rains occur in the Wonsan vicinity where the monthly amounts are often double those recorded in the northeast in the Songjin - Unggi section. More than 21 inches has been recorded in a single month at Wonsan whereas the maximum monthly amount at Songjin is slightly more than 11 inches. Precipitation occurs on 11 to 18 days in July, the month of greatest frequency, and on slightly fewer days in other months of the summer season. The greatest frequency appears to occur in the Wonsan area and in the Ch'ongjin -Unggi sector, and the least frequency in the south around P'ohang-dong.

Temperatures are moderately high along the coast in summer but extremes are uncommon. Mean maxima are 75° to 80°F. in the north and 80° to 85°F. in the central and south portions. Extreme maxima are slightly below 100°F. in the north and slightly above 100°F. in the central and south portions. It is not unusual for the temperature to rise 30°F. in a very short time during the occurrence of hot, dry downslope winds. In general, winds off the sea are cool in summer, whereas winds off the land may be quite warm.

C. Northern Korean Highlands.

The Northern Korean Highlands constitute an area wholly under continental influences with regard to its climate. The winters are severe, with low temperatures, little cloudiness, light and infrequent precipitation, and strong northerly winds over exposed localities. The summers are mild, with moderately high temperatures, much cloudiness, frequent rains, and light southerly winds. In considering the meteorological data for this region, it should be remembered that the observing stations, without exception, are located in the valleys along main high-roads or railroads. The data, therefore, reflect only the conditions to be found in the sheltered valleys and not the conditions over the more exposed mountain areas.

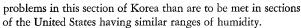
Surface wind data for stations in the Northern Korean Highlands are representative of only the immediate localities of the stations. Data for Ch'osan, for example, indicate southerly winds prevailing every month of the year except March, while, at Chunggangjin, east or northeast winds prevail from November through February and southwest winds predominate the remainder of the year. Wind speeds in protected valleys are very low, averaging 2 to 3 m.p.h., with a large percentage of calms, particularly in the cooler months of the year. At Ch'osan calms constitute approximately 50% or more of the observations from August through February, and at Chunggangjin calms exceed 40% of the observations in the winter months of December through February. Winds aloft data are not available for any stations in the Northern Korean Highlands, but conditions may be estimated from the nearby stations of Sinuiju and P'ongyang. North to north-northwest winds probably prevail in the cooler months of the year, shifting to northwest between 5,000 and 10,000 feet and to westerly above 15,000

feet. It may be assumed that wind speeds increase with height; at Sinuiju and P'ongyang speeds in excess of 46 m.p.h. are reported with increasing frequency above 10,000 feet. The warmer months of the year are marked by variable winds at all levels with southerly winds slightly predominant at low levels and westerly winds prevalent above 10,000 feet.

There are marked seasonal contrasts in cloudiness over this region: autumn and winter are the least cloudy seasons, averaging 35% to 50% cloud cover from October through March; spring and summer constitute the cloudy seasons, with cloud cover averaging 55 % to 75 % from April through September. January is ordinarily the least cloudy month; July the most cloudy. Midday is the cloudiest time of day in midwinter, but early morning is the cloudiest in midsummer. Data are not available on ceilings, but it is probable that ceilings low enough to interfere with aviation activities are most frequent in the fall and winter months whereas in summer and late spring ceilings are generally adequately high. Fogs may occur over the valley sections 2 to 4 times a month from August through January; they are of the radiation type which ordinarily burns off before noon. However, under conditions associated with stagnant high pressure areas, these fogs may persist throughout the day. Low visibility in this area may be caused by fog, dust, precipitation, or haze. Dust is most likely to occur in the spring months when active strong winds cross the region from the west, bringing dust aloft from the Gobi and Ordos deserts. In summer the visibility may be quite low for short periods of time during the heavy rainstorms. Light haze frequently attends the movement of tropical air masses over the region, with the result that visibilities are generally poorer in the summer than in the winter season.

The average annual precipitation over the Northern Korean Highlands varies from less than 20 inches to more than 50 inches. The least amounts occur in the northeast, with the upper Tuman Valley receiving less than 20 inches and the slopes facing the Sea of Japan receiving 20 to 25 inches. The greatest annual values occur in the mountains of the northwest, near the headwaters of the Ch'ongch'on-gang and the Kuryonggang. The remainder of the region receives between 25 and 50 inches annually on the average. Precipitation occurs on approximately 100 days annually over most of the region, except in the mountains of the north-central portion where the number increases to approximately 150 days a year. Of the annual amount, 80 % to 85 % occurs in the wet season, April through September. The monthly range of mean values of precipitation in the wet season is very great, varying at Ch'osan, for example, from 1.7 inches in April to 8.6 inches in July. The variation between the maximum and minimum precipitation in any month is even greater. At Huichon, in a period of 10 years, the July rainfall has varied between 33.6 inches (1915) and 2.0 inches (1919). Maximum rainfall in 24 hours has ranged between 5 and 9 inches in the mountain valleys. In midwinter most of the precipitation falls as light snow which remains on the ground until late in the season.

Mean relative humidity varies from slightly over 60% in April, the driest month to about 80% in July, August, September, and January, the dampest months. Some problems may arise in spoilage of perishable supplies, corrosion of metals, and deterioration of radio equipment in the summer months, but ordinarily the humidity should not cause any more serious



Winter temperatures in the Northern Korean Highlands are severe; mean minimum temperatures are generally below 0°F. and extreme minima 30° to 40°F. below 0°F. Summer temperatures are moderately high; in the valleys mean maxima average 80° and 86°F. and extreme maxima are in the vicinity of 100°F. At Chunggangjin temperatures may be expected to exceed 95°F. 2 to 3 days each season, ordinarily in July and August. At the same locality (Chunggangjin) the minimum temperature may be expected to fall below —4°F. on 74 days each season, from late November to early March.

Some limited data on the freezing of rivers are available. The Tuman-gang at Musan normally freezes in late November and the ice breaks up in early April. In unusual years, the freezing of the river has been delayed until 29 January or has occurred as early as 4 November. Similarly, the last ice in the spring has been recorded as late as 22 April and as early as 21 March. The Amnok-kang at Chunggangjin ordinarily freezes over in mid December and breaks up in early April. The earliest date of freezing is 7 December and the latest date 5 January. In the spring the latest date of thaw is 12 April and the earliest date 29 March.

D. Northern Taebaek Range.

The Northern Taebaek Range is the southern extension of the Northern Korean Highlands into the peninsula of Korea. The climate of the two areas is very similar, the principal differences being somewhat milder winter temperatures and heavier summer precipitation in the Northern Taebaek Range. Climatic data for Huich'on in the north and Koksan in the south of this range are included in the table. The prevailing surface winds over this region are from the northwest in winter and from a southerly direction in summer. Average wind speeds in the protected valleys are low, and there is a high percentage of calms. Winds aloft are northwest at all levels in winter and very strong winds are frequent at high levels. Winds aloft in summer are variable to 10,000 feet but westerly winds prevail above that level. Strong winds aloft are uncommon at flying levels in summer.

Winters are clear; average cloudiness is less than 40% and 10 to 15 days a month are clear. The summers are very cloudy, averaging 70% to 75% with only a few clear days and 12 to 18 cloudy days a month. Radiation fogs may be expected in the valleys on 2 to 4 days monthly in the late summer and autumn months, and occasionally at other times of the year. These shallow fogs ordinarily burn off before noon. Visibility may be lowered at times during the cooler months of the year by dust carried aloft in strong winds from the desert regions of Mongolia and North China. The annual rainfall in this section is heavy, averaging over 50 inches in the northern portion and 40 inches in the southern portion. Approximately 85 % of the annual amount falls in the wet season from April to September, inclusive. The number of days with precipitation varies from 4 to 6 monthly in winter, the dry season, to 8 to 16 days monthly in summer. Most of the precipitation in winter falls in the form of light, dry snow which drifts into the valleys with only small amounts collected on the mountains or in the open fields. Humidities are lowest in the spring in this region and highest in the summer. Humidities are also moderately

high in winter, in contrast to the east coast where winter humidities are low.

Although winters are cold, they do not reach the degree of severity attained in the Northern Korean Highlands. Mean minimum temperatures average $0^{\circ}F$. or slightly below in the coldest months with extremes of -25° to $-35^{\circ}F$. Summers are hot with average maxima about 85° for the hottest month and extremes of 100° or slightly above.

E. Wonsan-Kyongsong Corridor.

The Wonsan-Kyongsong Corridor provides a natural passageway between the west and east coasts of Korea as well as a natural divide between the Northern Taebaek Range and the Southern Taebaek Range. Climatological data for stations in the corridor are not given in the tables, since the climate does not vary greatly from that of stations in the mountain valleys to the north and south. However, for purposes of comparison, a few data from the station at Ch'orwon (Tetsugen, 38°15'N, 127°12′E, elevation 722 feet) are given here. Surface winds are likely to vary considerably in different parts of the corridor with northwest winds in winter and southeast in summer prevailing in the wider parts, and northeast in winter and southeast in summer in the narrow passes in the northeast. Surface wind speeds may be rather strong at times when the general air flow is in the same direction as the trend of the corridor (northnorthwest to south-southeast), but at other times are likely to be rather weak. Cloudiness is similar to that of adjacent regions with minimum cloudiness in the winter and maximum cloudiness in the summer. Ceilings should be adequate for contact flight over the wider portions of the corridor, but it is probable that the passes close in under conditions of moist air flow through the corridor. Radiation fogs may occur occasionally during the cooler months of the year, but conditions are not as favorable for their formation as in the mountain valleys to the north.

The average annual precipitation at Ch'orwon is 49.3 inches, of which amount 13.4 inches falls in July, the month with the greatest amount, and 0.6 inch in January and February, the months with the least amount. It is probable that heavier rains occur in the higher passes. The maximum monthly rainfall at Ch'orwon is 23.7 inches which occurred in August 1922. Precipitation occurs on 96 days a year on the average, of which number 37 are in the 3 summer months and 13 in the 3 winter months. The heaviest rainstorm occurred in the period 13 July to 3 August 1923 with 18.3 inches. A short distance to the northeast at Kumhwa, in the period of 17 July to 4 August 1923, 27.2 inches of rain fell.

Winter temperatures are not as severe in the corridor as in the neighboring highlands. Average minima at Ch'orwon and Kumhwa are 8°F. in January, the coldest month, with extreme minima for the season of —13° and —15°F. The average maximum temperature for August, the hottest month, is 85°F., with extreme maxima of 98°F. The records from which these temperature and precipitation data have been taken cover a period of 11 to 12 years.

F. Southern Taebaek Range and Sobaek Range.

Climatological data are given in the tables for 3 stations in the Southern Taebaek Range: Hoeyang in the north; Chongson in the central part; and Yongyang in the south. All 3 stations are located in small mountain valleys completely surrounded by higher elevations, and are typical of conditions in such valleys. Surface wind directions are extremely variable in these small enclosed valleys which have a large percentage of calms at all seasons of the year. Over the adjacent mountains, the prevailing winds are northwest in winter and southwest to southeast in summer.

Actual data on cloudiness are not available for the mountain stations but it is reasonable to suppose that the mean cloudiness would be somewhat higher at all seasons of the year than over the neighboring coastal regions and plains. Ceilings over the mountains are often very low, particularly in the winter season, and air support for ground operations would be much more difficult than along the coasts or over the rolling plains. Similarly, these small enclosed mountain valleys are favorable locations for the formation of cool-season radiation fogs. Such fogs ordinarily burn off by noon but may persist throughout the day under favorable conditions.

The average annual precipitation in the small mountain valleys is 40 to 45 inches, but larger amounts are probable on the windward slopes of the mountains. July is the month of heaviest precipitation; approximately 85% of the annual amount falls in the warm season of April through September. Maximum monthly amounts of precipitation between 20 and 25 inches have been recorded throughout the mountain region; these excessive amounts usually occur in July or August. Precipitation falls on 100 to 115 days annually, 5 to 7 days a month in midwinter, and 10 to 16 days a month in midsummer. Indicative of the possibilities of long-continued heavy rains is the 6-day period 17 to 22 August 1922, when 21.1 inches fell at Chunyang.

The winters, while cold, are not excessively cold as in the interior of the northern portions of Korea, and there is a rapid increase in temperature with decrease in latitude. The mean minimum temperature for the coldest month, January, at Hoeyang is 3°F. while at Chongson it is 13°F.; the extreme minima at these places are —23° and —17°F., respectively. Mean maximum temperatures for the warmest months of the year vary between 80° and 85°F. with extreme maxima just below 100°F. As in all other sections of Korea, the summers are hot with relatively high humidity.

G. Naktong-gang Basin and Hills.

This region includes a portion of the south coast of Korea and the valley of the Naktong-gang, the upper part of which is enclosed between the southern extension of the Taebaek Range and the Sobaek Range. Two stations have complete climatic data in this region-Pusan on the coast at the mouth of the Naktong-gang and Taegu in the enclosed valley of the upper Naktong. At Pusan the winds are prevailingly northerly throughout the year except in July when south winds prevail. The northerly winds of winter are much more persistent than those of the warmer months of the year. At Taegu surface winds are prevailingly west at all seasons of the year. Mean wind speeds are higher at Pusan than at Taegu, averaging 7.7 and 4.9 m.p.h., respectively. The greatest difference occurs in the winter months when the wind speeds at Pusan are approximately double those at Taegu. The north winds at the surface in the cooler months of the year become north-northwest aloft and back through northwest to west with increasing elevation. The frequency of strong winds increases with elevation. In summer southwest winds are prevalent at low elevations, becoming westerly at 10,000 feet; strong winds are not reported at ordinary flight levels.

This southeastern section of Korea is favorably located with respect to conditions of cloudiness, the average in winter being 35% to 45% cloud cover with the lesser amounts recorded on the coast; the average cloudiness in midsummer is slightly over 70% with no appreciable difference between the coast and the interior. Late fall conditions (October and November) are somewhat better than those in spring. Clear days average 9 to 13 a month in midwinter and only 2 or 3 in midsummer. On the other hand, cloudy days average 4 to 6 a month in midwinter and 12 to 16 in midsummer. Fog may be expected on 13 to 16 days annually. On the coast, the maximum amount of fog (2 to 4 days a month) occurs in the late spring and early summer; in the interior, it occurs in the fall and early winter months.

Precipitation amounts vary considerably between the interior valley and the coast. In the interior, the annual rainfall is between 35 and 40 inches, with an inch or less a month in midwinter and 5 to 9 inches a month in June through September. On the coast, 1 to 2 inches fall monthly in midwinter and 7 to 11 inches monthly in June through September; the greatest mean monthly amount in both sections occurs in July. Under extreme conditions 10 to 20 inches may occur in any month from June through September in the interior and 18 to 28 inches in any month in the same season along the coast. Ground conditions in these months are very poor; motorized traffic is possible only along surfaced roads. Precipitation normally occurs on 5 to 7 days a month in midwinter and 11 to 14 days in midsummer. Snow falls on 4 to 5 days a month in winter in the interior and 1 to 2 days a month on the coast. The heaviest single rainstorm in Pusan occurred in 1905 when 21.6 inches fell in 11 days from 18 to 28 July: 14.0 inches fell in 24 hours on the 27-28th July.

Mean relative humidity shows much greater range on the coast than in the interior. At Pusan the winters are dry with a mean humidity of 52%, whereas the summers are moist with a mean humidity of 80%. Special precautions are needed for the protection of perishable supplies and technical equipment in the summer months against the effects of high humidity. In the interior at Taegu, the mean relative humidity shows less seasonal variation averaging 62% in winter, and 72% in summer.

Winter temperatures, although cold for the latitude, are mild in comparison with those of northern Korea. In the coldest month, January, the mean minima are 21° and 29°F. at Taegu and Pusan, respectively; the extreme minima at the 2 stations are —4° and 7°F., respectively. The summers are hot, with mean maxima in August 88°F. at Taegu and 85°F. at Pusan. Extreme maxima exceed 100°F. in the interior, but are about 95°F. along the coast. The moderating influence of the coastal waters is seen in the milder winters and slightly cooler summers along the coast as compared with the interior.

H. South Coast lowlands, hills and islands.

In this section complete data are given for the important city of Mokp'o, temperature and precipitation data for Sunch'on on the mainland, and precipitation data only for Hangmun-do and Sohuksan-do off the coast. The region is characterized by milder temperatures and greater cloudiness than most of Korea. The summer rains are heavy, but not excessive, and moderate amounts of rain occur in the winter months.

The prevailing winds at Mokp'o are southerly in July and August and northerly at all other months of the year. The persistency of the prevailing winds is much more marked in winter than in summer. The average wind speed at Mokp'o is greater than that of most land stations used in the tables (except Unggi), reflecting the exposed location of the station. Mean wind speeds at Mokp'o exceed 12 m.p.h. in January, February, and March, and drop off to 7.4 m.p.h. in June, the month of the lowest wind speed. Maximum wind speeds have exceeded 70 m.p.h. in July, September, and November. Winds aloft are northwesterly during the cooler months of the year with frequent strong winds, particularly at the higher levels. In the summer, winds aloft are variable up to 10,000 feet, above which level westerly winds are prevalent, their persistency increasing with increasing elevation. Strong winds aloft are not reported at ordinary flying levels in the summer.

Southwest Korea is the cloudiest section of the mainland, with the possible exception of the high mountains for which there are no data. October and November are the least cloudy months, with 49% and 55% sky coverage; June and July are the cloudiest months with 73% and 74%. Winter is much cloudier in the southwest than in other sections of Korea; Mokp'o averages 65% sky cover, in contrast with averages of 35% to 45% at stations in other sections. In autumn there are 5 to 7 clear days a month at Mokp'o; in spring, 4 or 5 days a month, and in winter and summer, only 2 or 3 clear days a month. In autumn and spring 7 to 12 cloudy days a month are the rule; in winter 12 to 14; and in summer 12 to 18.

Because of the lack of ceiling data, certain inferences must be made. In the winter the gradient flow is towards the southsoutheast across the waters of the Huang Hai (Yellow Sea). When the air streams leave the Asiatic continent, they are very cold and dry. In passing over the relatively warm waters, they are warmed at the surface and rapidly acquire large amounts of moisture in their lower levels. Stratocumulus cloud decks are soon formed and it is these stratocumulus clouds which are prevalent over the lowlands of the southwest. Ceilings, usually between 2,500 and 4,000 feet, under the stratocumulus decks are adequate for contact flight over southwest Korea. In the warmer months, stratus is the most common type of low cloud and ceilings proably vary from a few hundred to 2 or 3 thousand feet at the coastline. In summer over the hot interior, the stratus clouds are either dissipated or lifted to insure adequate ceilings for contact flight. At Mokp'o fog may be expected on 2 or 3 days monthly in spring and 4 days monthly in early summer (June and July); fog occurs not more than once a month during the remainder of the year. These fogs are essentially advective sea fog and do not penetrate far inland.

The average precipitation over this region varies between 40 and 60 inches annually. The lesser amounts occur on the low islands and low coastlands some distance from the mountains; the higher averages, on more mountainous islands and near the vicinity of mountains on the mainland. On the more mountainous islands, increased precipitation is noted principally during the cooler months of the year when lifting in the north-

northwest air stream causes light precipitation. On the mainland, the increase is most apparent during the summer months, when 9 to 12 inches monthly may be expected. At this same season, 6 to 8 inches of precipitation monthly is normal elsewhere in the region. In winter precipitation falls on 11 to 16 days a month over the islands and coastal regions exposed to the full force of the marine-modified north to northwest air streams, and on 5 to 7 days a month at protected localities, such as Sunch'on. In midsummer, rain falls on 11 to 15 days monthly except on islands with lower elevations where there are only 9 to 12 days monthly. Maximum monthly amounts, occurring only in the summer or early autumn months, are 15 to 18 inches along the coast or over the neighboring islands and 25 to 30 inches in the mountainous interior. Snow falls on 9 to 11 days monthly in midwinter on the mainland, but does not remain on the ground for any length of time in southern Korea.

The humidity is moderate in the cooler months of the year and high in the summer months, averaging 82% to 86% monthly in midsummer. The high humidity of the summer season may cause damage to supplies and equipment unless special precautions are taken.

Temperatures are moderate in winter and hot, though not excessively so, in summer. Mean minimum temperatures in midwinter are slightly below freezing on the mainland and slightly above freezing offshore. In extreme instances, the minimum temperature may be 3° to 6° F. on the mainland and 10° to 15°F. on the islands off the coast. In summer the maximum temperatures average 83° to 88°F. with extreme maxima reaching 95° to 99°F. The moderating effects of the neighboring sea are most effective along the immediate coast and over the adjacent islands.

I. Island approaches.

Three large islands or island groups are included in this section; Quelpart (Cheju-do) with the smaller Mara-do off the southwest coast, the Tsushima group, and Ullung-do. In each of these islands, the elevations are sufficient to materially affect the cloud, wind, and rainfall records.

Wind data are available only for Cheju on the north coast of Queipart. These data show the prevailing wind to be northwest from November through April, and more variable in other months. Northeast to east is, however, the most frequent wind direction from June through September. The northwest winds prevailing during the cooler months of the year are typical of the location of the islands in relation to the continent of Asia: however, the northeast to east winds in the summer season are not consistent with the general air flow for the region but are probably the result of local land and sea breeze effects. The mean wind speed at Cheju, averaging over 14 m.p.h. in winter and about 9 m.p.h. in summer, is higher than for any other station in Korea for which records are available. The maximum wind speed of 80 m.p.h. recorded in August, was probably a result of a passing typhoon. Prevailing winds aloft are northwest to west-northwest at all levels in winter with very strong winds quite frequent at high levels. In summer the winds are variable to 10,000 feet with prevalent west winds above that level and excessive wind speeds uncommon at ordinary flying levels.

Cloudiness is largely determined by the position of the island in relation to the prevailing air stream and the location of the reporting station on the island with respect to local topography. Quelpart and Ullung-do are fully exposed to the prevailing northwest winds of winter which have been modified by a long trajectory over the waters of the Huang Hai and the Sea of Japan. As a result, the percentage of cloud cover in winter is very high, averaging 83 % at Cheju. Tsushima is protected by the proximity of the peninsula of Korea; furthermore, the reporting station, Izuhara, is located on the lee side of the mountains with respect to the prevailing winds of winter. The mean cloudiness at Izuhara, 54% in winter, is 16% greater than that of the nearest continental station at Pusan, but still much less than that of Cheju. In summer the conditions are reversed; Cheju, which lies on the north side of the island, is on the lee side of the mountains with respect to the prevailing southerly winds, whereas Izuhara and the station on Ullung-do are on the windward side. The average summer cloudiness at Cheju is 65 %, that of Izuhara is 72 %; and Ullung-do is probably similar to Izuhara. The autumn season appears to be less cloudy at Izuhara than at Cheju and the spring season quite similar at both stations. Clear days in winter are much more frequent at Izuhara than at Cheju (16 and 2 days for the season, respectively); in summer there are 9 clear days at Cheju and 8 at Izuhara for the season. In winter, there are 65 cloudy days at Cheju and 25 at Izuhara; in summer, there are 41 cloudy days at Cheju and 51 at Izuhara.

Sea fogs are most frequent in the late spring and early summer; maximum occurrence is in June. Fogs are slightly more frequent at Izuhara than at Cheju, because of the more exposed location of the former station to the southerly winds. There are 21 days a year with fog at Izuhara and 12 at Cheju. The frequency of fog at Ullung-do is not given, but it is probably greater than that of Izuhara, because of the exposed location. Fog is the principal serious limitation to visibility, although damp haze in the warmer months of the year may occasionally reduce visibility to 3 to 6 miles.

Precipitation varies greatly with the location of the reporting station on the islands. At Izuhara the annual precipitation is 90 inches, the largest amount at any station within the region covered by this report. Average amounts of 9 to 14 inches monthly occur from April through September and 3 to 6 inches in other months. At Cheju the annual precipitation is 55 inches; 6 to 9 inches fall monthly in June through September and 2 to 4 inches in other months. At Mara-do the annual amount is 44 inches; 5 to 7 inches a month fall in the summer and 1 to 2 inches a month in the winter. At Ullung-do the annual amount is 57 inches distributed as follows: winter. 16 inches; spring, 10 inches; summer, 16 inches; autumn, 15 inches. Ullung-do has the heaviest winter precipitation (4 to 7 inches a month) recorded at any station in the region covered by this report. In summer and autumn also, 4 to 7 inches are to be expected monthly at this station, but spring is less rainy with 3 to 4 inches monthly. Precipitation is more frequent over the islands than over the mainland, occuring on 128 days a year at Mara-do and 175, at Ullung-do. At Mara-do precipitation is slightly more frequent in summer than in winter -36 and 32 days, respectively; at Cheju it is more frequent in winter than in summer—43 and 36 days, respectively; at Izuhara it is most frequent in summer—42 days in summer, 33

days in winter. The contrast between the 2 seasons is greatest at Ullung-do where precipitation occurs on 70 days in winter and 31 days in summer. The greatest monthly amount ever recorded at Ullung-do, 13.7 inches, occurred in a winter month—February. Similar amounts have occurred at Cheju in all summer months, and Mara-do once received 21.9 inches in July. It is probable that even greater amounts may have occurred at Izuhara in connection with the passage of a typhoon. Light snow occurs rather frequently in winter at the island stations, but probably does not accumulate on the more southerly islands.

Humidity is high (80% to 84%) during the summer months and September, but is moderate the remainder of the year. The summer humidities are slightly higher at Izuhara than at Cheju but in the winter months Cheju is somewhat the more humid.

Temperatures are quite moderate in comparison with interior stations in Korea. In winter the mean minimum temperature is above freezing on Tsushima and Quelpart and slightly below freezing on Ullung-do, with extreme minima of 12° to 16°F. The summers are hot, with mean maxima temperatures of 80° to 86°F. in the warmest months, the lower means occurring on Ullung-do. Extreme maxima do not reach 100°F. at any of the reporting stations; 95° to 97°F. are the highest temperatures recorded.

J. Western Lowlands and Hills.

This section is, in many respects, the most important in Korea. Roughly 300 miles long by 50 to 100 miles wide, it includes the major portion of the lowlands of Korea. Data are given for 8 stations on the mainland and 1 island about 30 miles off the coast. The prevailing winds over this region are northwest from November through March, shifting to west or west-southwest in April through June. Winds in July, August, and September are variable throughout the region, but there is a tendency for easterly winds to prevail in the north and westerly winds in the south. Average wind speeds are greater near the coast than in the interior; average speeds are about 10 m.p.h. and 4 m.p.h. respectively. Maximum wind speeds of about 40 m.p.h. may be expected in the interior, but speeds of over 75 m.p.h. have occurred along the coast during the passage of typhoons. Winds-aloft data for Inch'on, Kyongsong and P'yongyang indicate a prevalence of northwest and west-northwest winds aloft at all levels in the winter season, and an increasing frequency of strong winds with increased elevation. In summer the winds aloft are variable up to 10,000 feet with west winds prevailing above that level and an absence of strong winds at low levels.

Cloudiness, in general, increases from north to south in the cooler months of the year, particularly in the winter months. In the extreme north of the region, the average winter cloudiness is 35%, while in the extreme south it is more than 60%; over most of the region it is approximately 45%. In summer the average cloudiness is about 70% for the whole region. Clear days occur most frequently in the north and during the cool season of the year; P'yongyang has an average of 63 clear days during October through March, while Chonju in the south has only 35. In summer there are only 2 to 4 clear days monthly throughout the region. Conversely, there are more cloudy days in the south than in the north during the cool season of the year; P'yongyang has an average of 32 cloudy

days during October through March, and Chonju 54 days in the same period. Throughout the region, cloudy days are most frequent in summer, with monthly averages of 12 to 18 cloudy days. July is the month with the greatest number of cloudy days.

The incidence of fog varies greatly with local conditions In the interior, fogs are most likely to be of the radiation type, forming late at night or early morning and dissipating before noon. Radiation fogs occur in this region most often in late summer and autumn, but may occur in any season of the year. The average frequency is 2 to 4 days a month in late summer and autumn and 1 to 2 days a month in other seasons. Advective sea fogs may occasionally be carried across the coastline in warmer seasons of the year. They occur 3 to 10 days monthly at Inch'on in spring and summer, attaining a maximum in June. The higher frequency of fog at Inch'on as compared to other places along the west coast for which data are available may be caused in part by the elevation (226 feet) of the meteorological station. Conditions recorded as very low stratus cloud at lower elevations might be recorded as fog at this station. Visibility may be lowered to a few miles in the warm season of the year by damp haze, and occasionally in the winter and spring months, by dust carried aloft by strong winds from the deserts of Mongolia and North China.

The average annual precipitation over this region varies between 37 and 47 inches on the mainland, and is 33 inches at the island station. During the cool season of the year, from October through March, average monthly amounts vary from 1/2 to 2 inches, whereas during the warm season, April through September, average monthly amounts vary from 2 to 14 inches, with a marked maximum in July. Of the annual precipitation, 85% to 90% falls during the warm season, April through September. The heaviest monthly amounts occur in the interior in the vicinity of low mountains, and the smaller monthly amounts occur on the islands off the coast and at coastal locations of low elevation. Maximum monthly amounts of 25 to 30 inches in the summer months are general throughout the mainland of the region; at Sin'gye (38°30'N, 126°32'E, elevation 197 feet), the remarkable amount of 42.7 inches was recorded in the month of August 1922. Precipitation falls on 4 to 11 days monthly in winter, the smaller number occurring in the north and the larger number in the south and on the islands some distance off the coast. In summer, precipitation may be expected on 9 to 15 days monthly throughout the region; the larger number, in the month of July. Much of the winter precipitation falls as light snow, but the total amounts are so small that any appreciable accumulation on the ground is unlikely. A maximum depth of 1 foot is probable along the coast, and somewhat greater depths, in sheltered valleys of the interior where the snow may be drifted in from the neighboring highlands.

Relative humidity is moderate (60% to 65%) in the winter and high (80% to 85%) in the summer. Humidities are higher in the south in winter than in the north, averaging 70% to 75%, but throughout the area damage to supplies and equipment may result in summer.

Cold winters and hot summers characterize the Western Lowlands and Hills. In winter, the mean minimum temperature of the coldest month varies from 8°F. in the north to 22°F. in the south, and extreme minima vary from —20°F.

to slightly above 0°F. In summer, mean maximum temperatures for the month of August, the hottest month, vary between 84° and 88°F., and the extreme maxima approximate 100°F.

The Han-gang at Kyongsong is normally frozen over for a period of 78 days, from 17 December to 4 March. The Tae-dong-gang at P'yongyang is normally frozen over for a period of 82 days, from 17 December to 8 March. During extremely cold years these rivers have been frozen over by the first week in December, and the period of freezing has been 100 days or more.

K. The Lower Amnok Valley.

There are 2 meteorological stations in this region for which climatological data are used in this report: Yongamp'o near the mouth of the Amnok-kang; and Sinuiju, a short distance up the river and opposite the Manchurian town of An-tung. Prevailing winds near the mouth of the Amnok-kang are northerly 8 months of the year, from August through March, and southerly from April through July. Mean wind speeds vary between 5 and 8 m.p.h. with the higher speeds occurring in April and May and the lowest wind speeds occurring in August. Maximum wind speeds of 40 to 48 m.p.h. have occurred in all seasons of the year.

This region is one of the clearest in Korea, the cloudiness averaging less than 40% from October through February with 10 to 15 clear days a month in that period. Summer is the cloudy season, with average cloudiness of 65% to 75%, and only 2 to 4 clear days a month. In summer 12 to 20 cloudy days a month may normally be expected, but in winter the frequency is only 4 to 6 days monthly.

Visibility is reduced in the summer season by damp haze and in the winter and spring by occasional dust haze carried aloft by strong winds from the deserts of Mongolia and North China

Fogs may occur at any season of the year in the lower Amnok-gang Valley; many more fogs are reported from the vicinity of Sinuiju than in the vicinity of Yongamp'o. At Sinuiju, radiation fogs ordinarily occur 3 to 4 times monthly in the fall, winter, and spring, and advection sea fogs occur 5 to 7 days monthly in July, August and September. At Yongamp'o the incidence of fog is about half that at Sinuiju.

Precipitation averages 36 to 42 inches annually in the lower Amnok-gang Valley, more than half of which falls in the 3 summer months. Monthly amounts are less than 1 inch in winter, 1 to 4 inches in autumn and spring, and 5 to 11 inches in summer. In extreme cases, 18 to 20 inches may fall in a single summer month, whereas very small amounts (less than 1/2 inch) may occur in the months from October through May. Precipitation may be expected normally on 2 to 5 days monthly in winter and on 9 to 15 days monthly in summer. Most of the winter precipitation occurs as snow, but the small quantity precludes appreciable accumulation on the ground.

Relative humidity is moderate in the winter season and high in the summer; it averages 70% in winter and 81% to 87% in the summer months. As in the other regions, special precautions are necessary for the protection of perishable goods and technical equipment against the effects of high humidity in midsummer.

Winters are severely cold in the Amnok-gang Valley, with mean minimum temperatures 6° to 8°F. in January, the coldest month; extreme minima of —20°F. have been recorded. The summers are hot; August, the hottest month, has mean maxima of 83°F. near the coast and 89°F. a short distance inland. Extreme maxima in the summer are about 95°F. near the coast and probably reach 100°F. further inland. The Amnok-kang at Yongamp'o is normally frozen from 7 December to 16 March, a period of 101 days. However, it has been known to freeze over on 14 November and to continue frozen for a period of 132 days.

53. Weather and Operations

A. Ground operations.

Precipitation, temperature, wind speed, and humidity are weather factors which may affect the comfort, mobility, supply, and combat activities of troops on the ground.

(1) Precipitation.

The trafficability of local soils and unimproved roads is determined largely by the amount and intensity of precipitation. The comfort of the troops, the type of shelter, and the kinds of clothing are also dependent upon the frequency and intensity of rain or snow. The nature and extent of storage facilities and the efficiency with which supplies can be handled are largely dependent upon the nature of the precipitation, and the flooding of rice fields in spring and summer must also be considered in evaluating the trafficability of the region.

The total annual average amount of precipitation in the area varies between 20 inches in the northeast in the drainage basin of the upper Tuman-gang, and near 60 inches along the central portion of the south coast. Regions of relatively light precipitation include the entire northeast (north of 40°N and east of 128°E), the lowlands about the mouth of the Taedonggang, and islands of low elevation off the west coast. Regions of relatively high precipitation include the mountainous in-

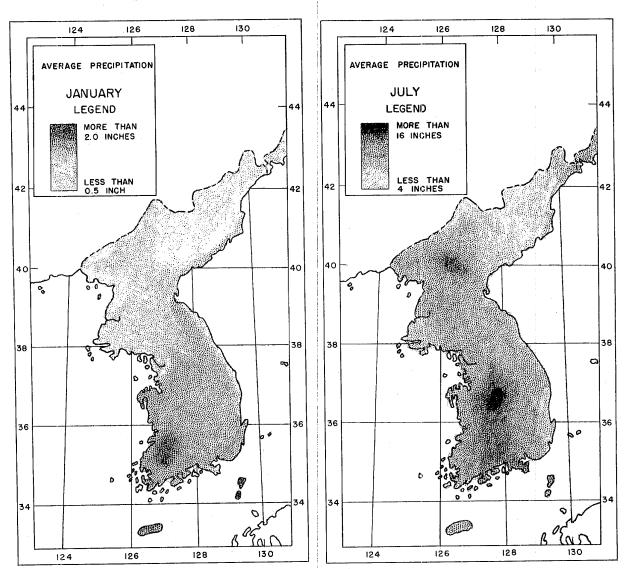


FIGURE V - 3. Average Precipitation for January and July.

terior of the northwest, the entire south and southwest coastal sections, and a large section in the central part of the country extending from the coastal hills in the west to the east coast. Rainfall is heavy over the more mountainous islands, and, in favorable locations such as Izuhara on the Tsushima group, it reaches the unusual total of 90 inches annually.

Winter is a season of light precipitation in all sections except Ullung-do where spring is the least rainy season. The areal distribution of monthly precipitation is as follows: over much of the interior, less than 1 inch; over the coastal regions, 1 to 2 inches; in the vicinity of Kangnung and the mountainous islands except Ullung-do, 2 to 4 inches; at Ullung-do, 4 to 6 inches. On the mainland only 5% to 10% of the annual precipitation occurs in winter, and only at Ullung-do does more than 25% occur during the winter months. A steady increase in amount and frequency of precipitation begins in late March and by April and May, 2 to 4 inches normally occurs in all sections except the south coast, where 5 to 6 inches is the

normal rainfall. Ullung-do, however, has a slight decrease in precipitation throughout the spring. (Figure V-3)

Summer is the season of heavy rainfall throughout Korea (FIGURE V - 4). In June, 3 to 4 inches are normal in the north and 4 to 6 inches in the central and south portions, except on the south coast, where 8 to 10 inches normally fall, and at Izuhara on Tsushima, where June, with 14 inches, is the wettest month of the year. July is the month of maximum rainfall over the central and southern portions; 8 to 12 inches is normal over most of the area, with 16 inches normal over the northern Taeback Range. In the north central and northeast, August, with a normal rainfall of 6 to 8 inches, is the wettest month. Elsewhere precipitation amounts begin to decrease in August; 6 to 9 inches being normal over most sections. From 50% to 65% of the annual amount occurs in the three summer months, except along the northeast coast where the summer accounts for 40% to 50% of the annual precipitation.

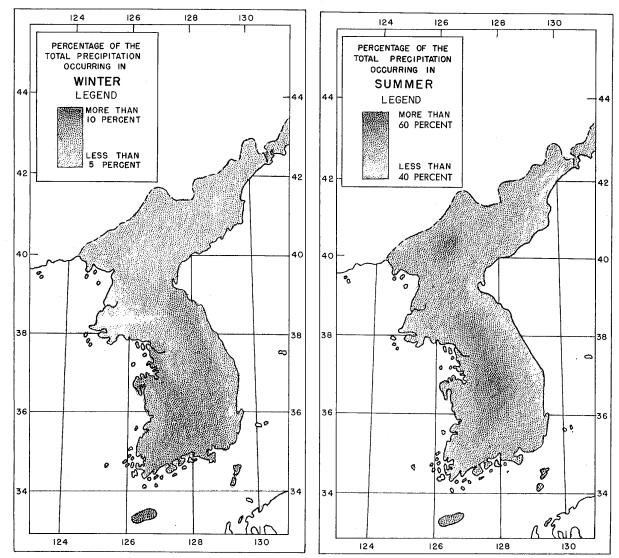


FIGURE V - 4. Percentage of the Total Precipitation occurring in Winter and Summer.

The autumn months show a rapid decrease in precipitation; 4 to 7 inches are normal, except in the extreme north, where 2 to 4 inches are average. The amounts decrease to 2 to 4 inches over most sections in October, and to 1 to 2 inches in November. Because of the heavier precipitation in September, the autumn season has somewhat greater amounts than the spring season; 15 % to 20 % of the annual amount is normal in the spring and 20% to 25%, in the autumn over all sections except the northeast coast, where 30% to 35% is usually received in autumn. The season from October through March is generally considered the dry season, when only 15% to 20% of the annual precipitation occurs. The season from April through September is considered the wet season, when 80 % to 85 % of the annual precipitation occurs. Trafficability conditions over the greater part of the country are very poor in July and August, and, along the south coast, from June through September. Much of the farm land in the south and west is in rice, and flooded rice fields in the spring and summer seasons constitute an additional problem to the movement of troops and equipment across country.

The frequency of precipitation in winter is largely dependent upon the location of the reporting station with respect to the prevailing winds and the mountain ranges. Stations in the lee of high mountain ranges report from 4 to 8 days a month with precipitation in winter, while stations on the windward side report 8 to 12 days with precipitation. These latter stations are mostly in the southwest area between the coast and the crest of the Sobaek-sanmaek (mountains). Stations on the windward slopes of mountainous islands have even more days with precipitation in winter; Cheju reports 12 to 16 days monthly and Ullung-do, 22 to 24 days. In the spring there is an increase in the frequency of precipitation, which occurs on 8 to 12 days monthly over most sections. The frequency of precipitation is greatest in summer when it occurs over most localities on 12 to 16 days monthly. In the fall there is a general decrease of the frequency of precipitation from 8 to 12 days in September to 6 to 10 days in November, except along the southwest coast and over exposed mountainous islands where the frequency is at a minimum in October but increases sharply again in

A large proportion of the winter precipitation is in the form of snow, as shown in TABLE V - 22. Since the total amount of precipitation is very small, there probably is not a great accumulation on the ground, except in some valleys in the northern mountains where the depth is increased by drifting from the crests.

Although the normal expectation of precipitation has been given in the preceding paragraphs, it is desirable to know what extremes may occur. The greatest monthly precipitation for selected stations is given in Table V - 17 and the least monthly precipitation in Table V - 18. In winter, moderate precipitation has fallen at most stations; heavy precipitation (5 to 7 inches monthly) has occurred along the east coast south of the Kumjinch'on, and 9 to 14 inches at Ullung-do. In summer, monthly amounts of 18 to 25 inches have been quite general over central and southern Korea. Amounts are smaller in the northeast and along the northwest border, where 8 to 16 inches is the greatest amount recorded in any summer month. In August 1922, the extreme monthly amount of 42.7 inches was registered at Sin'gye in the upper reaches of the Yesong-gang. These

conditions of heavy rains occur whenever fronts become quasistationary over Korea. In August 1922 the polar front was quasi-stationary across the peninsula of Korea most of the month, and heavy rains were general over a large part of the country. Heavy rains also occur whenever a typhoon passes slowly northward across or close to the peninsula. The maximum precipitation in 24 hours for selected stations is shown in TABLE V-19. Maximum amounts of 6 to 9 inches in 24 hours have been recorded rather generally throughout the country, with excessive amounts of 12 to 15 inches in 24 hours at some island stations and at Inch'on. The least monthly precipitation at selected stations is shown in TABLE V-18. Very small amounts have occurred rather generally in the cooler months of the year; only the more mountainous islands such as Cheju-do and Ullung-do are not subject to dry spells. In the summer season adequate amounts of precipitation occur even in the driest years except in the northeast where monthly amounts of less than an inch have occurred. Dry winters occur when the Asiatic anticyclone is persistent within the eastern portions of the continent and the outflow across the Korean peninsula is consistently offshore. Dry summers occur when there is a rapid retreat northward of the polar front in the spring, and homogeneous air masses overlie the peninsula throughout the summer months, with only local showers occurring in the mountain areas.

(2) Temperature.

The winters in Korea are cold in the south and extremely cold in the north; the areal variation in mean January temperatures is more than 45°F., from -6°F. at Chunggangjin to 36°F, at Pusan and 40°F, at Cheju. In the daytime the mean daily maximum temperatures range from 10°F. at Chunggangjin to 44°F. at Pusan, while at night their mean daily minimum temperatures are -20°F. and 29°F. respectively. Extreme minimum temperatures of -34° to -44°F. have been reported generally in the northern mountains, while the lowest recorded along the south coast is 3°F. at Sunch'on; below-zero temperatures occasionally occur in the interior of southern Korea. The summers are consistently hot without unusual extremes. The mean temperature in August, the hottest month, varies from 64°F. at P'ungsan in the uplands of the northeast to 80°F. along the south coast. In the daytime the mean daily maximum temperatures vary from 76°F. at P'ungsan to 88°F. along the south coast. Extreme maxima are in the vicinity of 100°F. throughout the country, slightly above in interior sections, and slightly below where the winds are persistently off the water. (FIGURES V - 5 and V - 6)

A limited amount of data is available regarding the formation and breaking-up of ice in the principal rivers of northern Korea. The date of freezing is given as the date on which the river was completely frozen over, not the date when ice was first observed. In some of the larger rivers, particularly the Amnok, drift ice occurs in the river for periods varying from a few days to a few weeks before and after the freezing and thawing of the rivers. This drift ice may impede small boats, even though the port may be open to large vessels. Data on the thickness of the ice are not available, although a comparison may be made with conditions at Ying-k'ou in Manchuria, where the thickness of the ice varied between 10 inches and 26 inches in a similar period.

The date of freezing and breaking-up of ice in the rivers is given in TABLE V - 2. In general, the rivers in the north central portion of Korea are frozen over from the middle of December until the first week in March. The Amnok is frozen over in the lower reaches the first week in December, and in the higher

reaches where the water flows more swiftly, in mid-December; the break-up usually occurs in the lower river in mid-March and in the upper reaches, the first week in April. The Tuman is frozen over for a longer period than other rivers, freezing the last week in November and breaking up the end of March or the first week in April.

 $\label{table V-2} \textbf{DATES OF FREEZING AND BREAKING-UP OF ICE IN RIVERS}$

River	LOCALITY	Mean	DATE OF FREEZ EARLIEST	ZING LATEST	Mean	Date of Break Earliest	LATEST	MEAN LENGTH OF FROZEN PERIOD (DAYS)	Yrs. Rec.
Tuman Tuman	Musan Sinasan (near)	28 Nov. 24 Nov.	4 Nov. 18 Nov.	29 Jan. 27 Nov.	7 Apr. 31 Mar.	21 Mar.	22 Apr.	131 128	15 4
Amnok Amnok Taedong Han	Chunggangjin Yongamp'o P'yongyang Kyongsong	17 Dec.7 Dec.17 Dec.17 Dec.	5 Dec. 14 Nov. 1 Dec. 9 Dec.	5 Jan. 23 Jan. 31 Dec. 26 Dec.	5 Apr. 16 Mar. 8 Mar. 4 Mar.	29 Mar. 2 Mar. 9 Feb. 31 Jan.	12 Apr. 31 Mar. 19 Mar. 18 Mar.	110 101 82 78	11 21 28 19

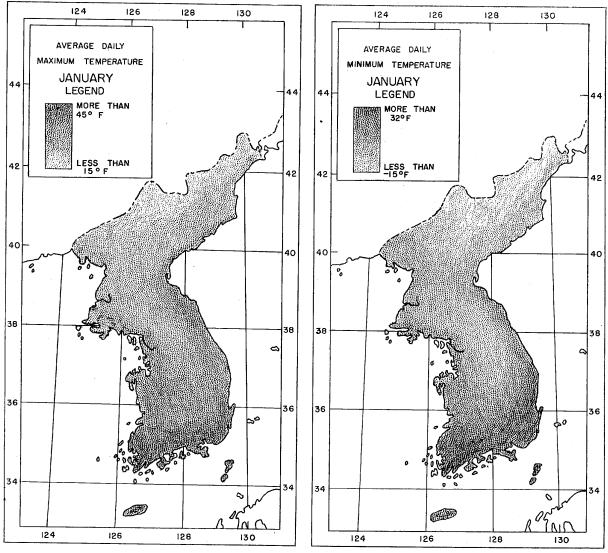


FIGURE V-5. Average Daily Maximum and Minimum Temperatures for January.

(3) Humidity.

Relative humidity is not high over most sections in the winter season. Mean values vary from 50 % for localities along the east coast, where winds are prevailingly offshore with a downslope component, to 70% along the southwest coast, where there is a large percentage of onshore winds. Mean values are high in the mountains of the north because of the low temperatures of that region. In contrast to the winter conditions, relative humidity is consistently high in the summer months, with mean values varying from over 70% to nearly $90\,\%$; the lower values are for interior locations and the higher values for exposed localities along the coast. The highest humidities occur in the early morning hours, and the mean values are well over 90 % in July and August. Under conditions of heavy rainfall and high humidity in midsummer, special precautions are necessary for the preservation of foodstuffs which are not commonly shipped in airtight containers (such as cereals and flour), the protection of leather and fabrics against the ravages of mold, the protection of metals against corrosion, and the protection of technical equipment, particularly radio equipment, which becomes defective under conditions of excessive moisture. (FIGURE V - 7).

(4) Synoptic conditions favorable for ground operations.

In general, the season from October through March is the most favorable for ground operations. In that season, certain synoptic situations which give rise to definite air stream patterns are more favorable than others for the movement of troops and other operations. The distribution of weather elements by air flow patterns is given in TABLES V-8 to V-14. Thus, at Mokp'o favorable conditions occur with a northeast air flow, while relatively unfavorable conditions occur with a northwest air flow. In the latter case, the air has moved for long distances across the Huang Hai (Yellow Sea) and is heavily laden with moisture in its lower levels, as evidenced by the frequency of

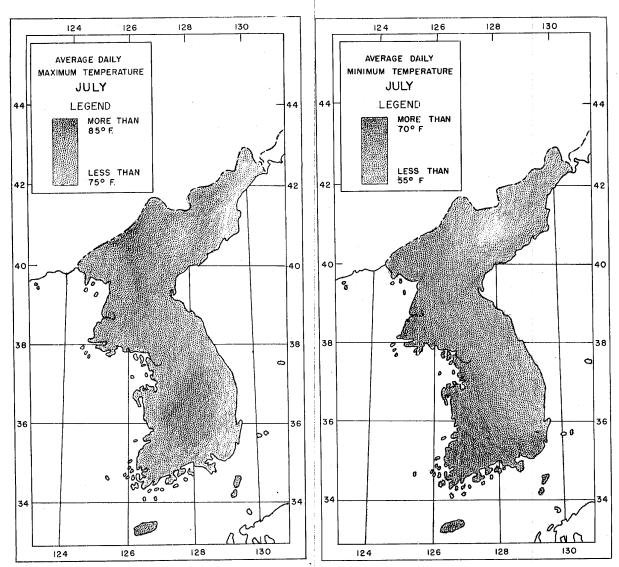


FIGURE V - 6. Average Daily Maximum and Minimum Temperatures for July.

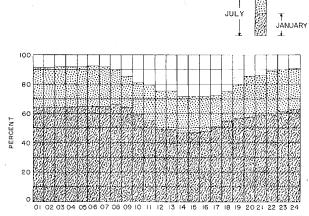


FIGURE V - 7. Mean Hourly Relative Humidity for January and July at Inch'on.

low cloud cover and precipitation. At the same time, conditions at Pusan may be quite favorable with northwest air flow, since in that vicinity the northwest wind has had a long trajectory over land and arrives at the station as a dry, cold wind without appreciable cloud cover. In the transitional seasons, favorable weather occurs simultaneously at many localities when high pressure overlies the peninsula of Korea and there is no well-defined direction of air flow (see Synoptic Series, FIGURE V-21). These situations are shown in the table under the heading of "Ridge and High".

B. Air operations.

(1) Topography in relation to flying conditions.

The topography of a region determines the elevations above sea level at which safe flying can be accomplished, and the type of weather which is encountered over the region. In general, there is an increase in cloudiness and precipitation along the windward slopes of the mountains; frontal conditions are intensified in crossing mountain ranges; icing conditions are more severe, and wind speeds are higher over the mountains.

In the north, high mountains stretch from north central Korea well into northeastern Korea, forming a climatic boundary between the continental climates of Asia and the peninsular climate of central and southern Korea. To the north of these mountains is a region characterized by light precipitation and relatively little cloudiness. To the south is a region of heavy rainfall and considerable cloudiness in summer. Extending southeastward along the eastern coast of Korea are the Taebaek Ranges, with a spur into southwestern Korea, the Sobaek Range. With westerly (and in the south, southwesterly) air flow, adverse weather may affect the entire west of the country while good flying conditions prevail along the east coast. Conversely, with easterly or northeasterly air flow, the east coast may experience very poor flying conditions while the lowlands of the west are having fine weather. At certain localities along the east coast, notably in the vicinity of Wonsan, strong downslope winds are quite frequent and constitute a hazard to parked airplanes. From the standpoint of climatic conditions and the effect of topography upon weather, it appears that the

most favorable regions for aviation activities are the upper Naktong-gang Basin in the southeast and the lowlands near the mouth of the Taedong-gang in the northwest.

(2) Low-level bombing operations.

(a) Cloudiness and low ceilings. Data on mean cloudiness are given in TABLE V-38. In general, summer is considerably more cloudy than winter, averaging 70% to 80% over most sections, whereas winter averages 35 % to 45 % in most sections except the southwest, where the average is 55 % to 65%, and the large mountainous islands, where the average is 55 % to 65 % on the leeward slopes and 75 % to 85 % on the windward slopes. The average number of clear and cloudy days per month is given in TABLES V - 39 and V - 40. Except on the windward slopes of the larger islands, cloudy days are much more frequent in the summer than in the winter. The most frequent type of cloud in the winter season is the stratocumulus, with ceilings ordinarily between 2,500 and 4,000 feet. The cloud layer is seldom very thick and can usually be topped at 6,000 to 8,000 feet. In summer, stratus clouds are the most frequent type, and, along with nimbostratus, are reported on nearly every cloudy day. Ceilings under stratus cloud decks vary to a greater degree than ceilings under stratocumulus clouds, from a few hundred feet to 3,000 or 4,000 feet. The lowest

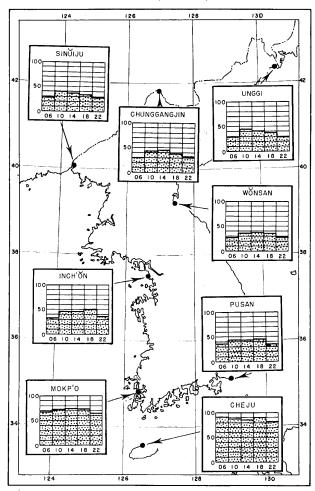


FIGURE V - 8. Mean Cloudiness for January at Time of Observation.

ceilings occur under conditions favorable for the formation of sea fog—a stable atmosphere with a slow drift northward of warm moist air streams across cooler water. Fog may form over the water, or the formation of visible cloud may be delayed until turbulence lifts the moist air to the condensation level. Ceilings under such conditions may be very low over the coastal regions. The stratus clouds ordinarily do not penetrate far inland, since they are easily dissipated over the hot interior. In the interior, ceilings in the summer are ordinarily adequate for contact flight, except that very low ceilings are frequent in the vicinity of the higher mountains. (FIGURES V - 8 and V - 9).

(b) Fog and visibility. There are 2 types of fog which may seriously affect flying operations in Korea and vicinity. The most important of these is the sea fog which forms most frequently when warm, moist air of tropical or subtropical origin drifts slowly northward across the cool waters of the Huang Hai and the Sea of Japan. At points exposed to southerly air drifts, such as Inch'on on the west coast and Unggi on the northeast coast, the season at which sea fog is most likely to occur begins late in March and extends through August; the maximum occurrence of sea fog is in June and July. At Unggi fog occurs on 8 to 11 days a month from May through July; this is typical of the extreme northeast coast in late spring and early summer. At Inch'on fog occurs on 6 to 10 days a month

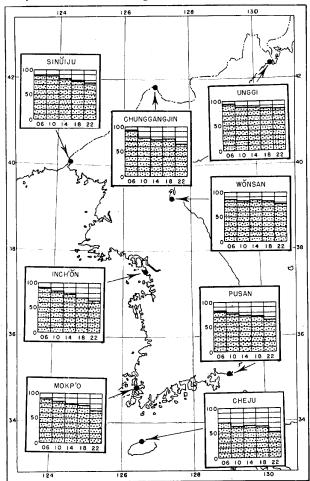


FIGURE V - 9. Mean Cloudiness for July at Time of Observation.

in the same period; some of the fogs recorded at Inch'on may appear as very low stratus clouds to observers at sea level (Inch'on is located on the top of a hill at an elevation of 226 feet above sea level).

Radiation fogs occur in protected localities in the interior during the cooler months of the year; for example, the maximum occurrence at Chunggangjin is in December and January. At this place, radiation fogs occur on 11 days a year, of which 7 occur in December and January. Radiation fogs ordinarily form in calms or very light winds late at night or in the early hours of the morning and are dissipated by 1100. They do not readily form where there is adequate air drainage, as along the eastern coasts of Korea.

Visibility is occasionally reduced by dust carried aloft by strong winds from the desert regions of Mongolia and northern China in the late winter or spring months. Conditions favorable for the transport of dust aloft are shown on the synoptic charts, FIGURE V-22. In this instance, an active cold front followed a period of warm dry weather, a condition favorable for the loosening of surface dust particles. The dust was raised by the turbulent action in the frontal zone and carried forward by the prevailing westerlies aloft. Practically all of the Korean peninsula was affected and appreciable dust was noticed over the Japanese island of Kyūshū. Visibility may also be restricted by snow, rainfall, and haze. Since damp haze is one of the characteristics of tropical maritime air, it is reasonable to suppose that visibility is restricted more often in the summer season when this type of air mass is prevalent.

(c) Target weather conditions. The frequency of observations with conditions suitable for low-level bombing is given in TABLE V - 3. Since conditions suitable for low-level bombing depend upon an absence of broken or overcast low clouds, no precipitation, and no obstruction to visibility, it may be inferred that low-level bombing operations would be most successful in the winter season along the northeast coast, with conditions slightly better in the morning than in the afternoon. On the north coast of Quelpart (Cheju-do), and to a lesser extent along the southwest and central-west coasts, suitable conditions are more frequent in summer than in winter, largely because of the frequency of low clouds in this region in the winter season. Data are not included for the interior or for stations in northwestern Korea in this tabulation, which has been made from available synoptic reports for a period of 10 years. In these sections, it is probable that conditions are much better in winter than in summer, since the contrasts between the seasons is very great in respect to cloudiness and frequency of precipitation.

(d) Icing conditions. Icing is not a frequent phenomenon over most of Korea in the winter season, since the predominant air mass is of continental origin and is very dry. However, some icing may occur along the southwest coast and along the north coast of Quelpart (Cheju-do) in the stratocumulus clouds formed in the marine-modified air masses. Icing in these clouds would occur with a strong northwesterly air flow at elevations of 2,500 to 8,000 feet. In those instances where the Asiatic anticyclone retreats to the westward and cyclonic storms move northeastward across the Korean peninsula, icing may be expected in the frontal zones and at very low levels. In the late spring, summer, and early autumn, when frontal conditions are most likely to be encountered over Korea, icing may be

expected with every well-developed disturbance, which may be severe where the fronts are forced to rise over the mountain ranges. Icing would be mostly commonly encountered between 4,000 and 12,000 feet in the transitional seasons and above 12,000 feet in midsummer.

TABLE V - 3
FREQUENCY OF OBSERVATIONS WITH WEATHER SUITABLE FOR LOW-LEVEL BOMBING OPERATIONS* (L.C.T.)

	TANT	Ern	Man	A mn	3644	7	T		0	<u> </u>		_	YRS
001101111	JAIN	LED	Mar	лык	WAY	JUN	JUL	AUG	SEP	UCT	NOV	DEC	RCD
SONGJIN													10
1800	21	16	19	19	16	11	13	14	19	21	21	19	
0600	23	19	22	20	16	10	10	13	19	23	21	21	
WONSAN													10
1800	26	21	22	20	18	14	12	16	20	23	23	23	
0600	26	21	21	18	19	13	11	11	17	24	23	22	
KANGNUNG	ì				-								10
1800	25	18	19	18	20	16	13	13	16	22	20	20	10
0600	26	19	19	17	18	11	11	12	16	22	22	22	
PUSAN			/					1.2	10	24	22	22	10
1800	23	19	21	18	21	17	15	17	17	21	21	21	10
0600	25	22	21	17	18	15	10	14	17	22	22	23	
MOKP'O				-,	.0			1.4	1,	22	22	29	10
1800	17	17	21	20	22	20	16	19	21	24	18	14	10
0600	14	13	18	18	20	16	9	16	20	22	17	14	
INCH'ON				10	20	10	,	10	20	22	1/	14	10
1800	22	21	21	19	21	22	18	19	22	24	20	10	10
0600	24	21	21	18	19	15	8				20	19	
CHEIU	2-1	21	41	10	19	1)	8	13	20	24	21	21	
1800	6	7	15	16	20	1 7	10	1/				_	10
0600	4	7	15		20	17	16	16	15	16	10	7	
1101/0	4	/	14	14	18	16	16	15	13	14	10	6	

 $^{^{\}ast}$ No precipitation, no obstruction to visibility; low clouds not predominant, or if predominant, total cloudiness less than 60%.

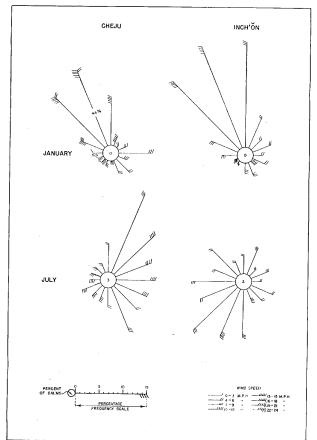


FIGURE V - 10. Surface Wind Roses for January and July at Cheju and Inch'on.

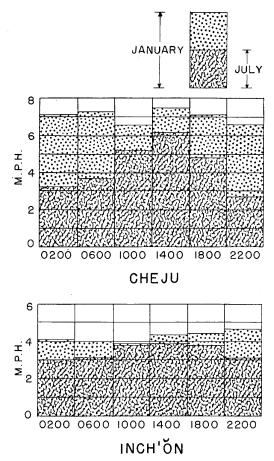


FIGURE V-11. Mean Wind Speed at Cheju and Inch'on at Time of Observation.

(e) Turbulence. Turbulence occurs in the lower levels of the atmosphere in the cooler months of the year whenever cold, dry air from Asia moves southward across the warmer surfaces of the land and the adjacent seas. In the summer, turbulence is a common experience over the mountainous sections of Korea because of the uneven heating of the land surfaces. The most severe turbulence occurs in connection with local thunderstorms, the occurrence of which is given for selected stations in TABLE V-41. Thunderstorms are most frequent in the north, occurring 3 to 6 days a month from May through August; the peak occurrence is in June. Thunderstorms are less frequent along the east coast than over western Korea.

(f) Surface winds. In a country as mountainous as Korea, the direction and speed of the surface winds is greatly modified by topography. Thus, although the gradient air flow in winter is predominantly north to northwest, west winds prevail at Wonsan and Kangnung along the east coast and at Taegu in the upper Naktong-gang Basin; northeast winds prevail at Chunggangjin and south winds, at Ch'osan. The prevailing wind directions for selected stations are given in Table V - 32, and the mean wind speed in Table V - 31. The velocity is highest at exposed localities along the coasts, such as Cheju on Quelpart and at Mokp'o in the extreme southwest of the peninsula. The lightest winds occur in sheltered mountain valleys or in river valleys where the air drainage downstream is opposed

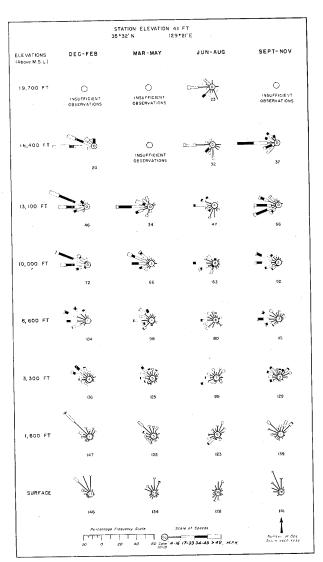


FIGURE V-12. Upper Air Wind Roses for Ulsan.

to the gradient wind flow, as at Kyongsong. At exposed coastal points, the highest mean wind speeds are recorded in winter but in the interior the highest mean wind speeds, although much lower, occur in the spring.

A special feature of the wind regime of Korea is the frequency of strong downslope winds along the east coast, sometimes described as foehn winds. Japanese meteorologists have computed the frequency of foehn winds at Wonsan as about 5% of the total number of hours; this estimate has not been checked with more recent data. The foehn winds occur when high pressure moves into the peninsula behind a cold front and a disturbance on the front simultaneously deepens in the adjacent Sea of Japan. As a result of the temporarily steepened pressure gradient strong westerly winds move down the mountain slopes; the air is warmed adiabatically and arrives at the coast as a hot, dry wind. These foehn winds are most frequent in the early spring and late fall, but may occur in any month except July and August. They were observed most frequently in the afternoon and evening hours, and rarely in the morning.

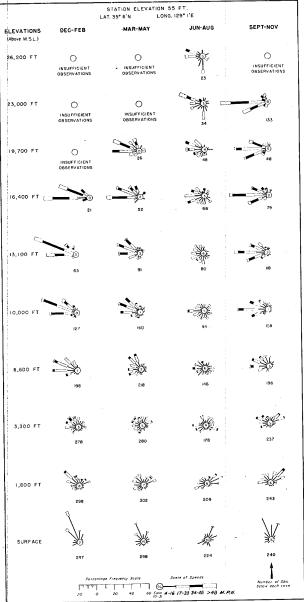


FIGURE V-13. Upper Air Wind Roses for Pusan.

In order to illustrate the effects of local topography upon the wind direction and wind speed, FIGURES V - 10 and V - 11 have been constructed from the available data for Inch'on and Cheju. They show the local variation of mean wind speed with direction and with the time of day. These local differences are repeated in great variety throughout the country, and it is necessary to take them into account in evaluating the synoptic material from Korean observatories.

(g) Winds aloft. Winds-aloft data for a number of stations in Korea are given in the form of upper air wind roses (FIGURES V-12 to V-18). In winter the winds aloft are northwesterly, gradually shifting to west-northwest and increasing in velocity at 10,000 feet and above. In summer wind directions aloft are variable to 10,000 feet, but westerly winds prevail above that level. Very strong winds aloft are not to be

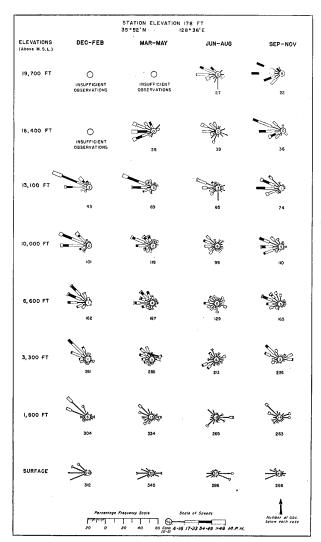


FIGURE V - 14. Upper Air Wind Roses for Taegu.

expected at ordinary flying levels in the summer season. As in winter, northwesterly winds aloft prevail during most of the transitional season, but very strong winds aloft are less frequent in the transitional seasons than in the winter.

(3) High-level visual bombing operations.

High-level bombing operations require an absence of broken or overcast cloud cover below the level of the bombing run. Since specific data with regard to high clouds are not available, the criteria most nearly approximating the desired conditions are a total cloudiness of 30% or less and no obstruction to visibility such as rain, snow, dust, haze, or fog. The tabular material is given in TABLE V - 4 and shows that, along the east coast, the cooler months of the year are by far the most preferable. This is true to a lesser extent of localities in the central-west and northwest. In localities in the southwest and on the islands off the coast, the most favorable periods appear to be in the autumn and in the spring months, whereas summer and winter are the poorest seasons.

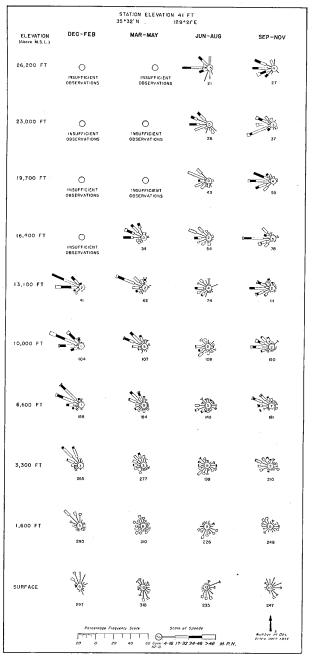


FIGURE V-15. Upper Air Wind Roses for Inch'on.

(4) Parachute operations.

(a) Surface wind speeds. Landings by parachute are affected by high surface wind speeds; both the accuracy of the landings and the safety factor are in inverse proportion to the wind speed. Reference is made to TABLE V - 34, Topic 55, in which the frequency of various wind speed groups at time of observation are given. The first 2 groups which include wind speeds of 0 to 12 m.p.h. are considered most favorable for parachute landings. In general, conditions are somewhat more favorable in summer and autumn than in the winter and spring months, the contrast being greater at exposed coastal points such as Mokp'o.

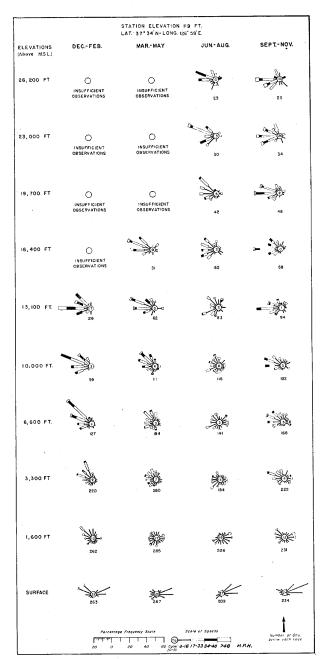


FIGURE V-16. Upper Air Wind Roses for Kyongsong.

(b) Visibility. Visibility is important in parachute operations for an accurate determination of the location and character of landing areas. The poorest visibility occurs in connection with heavy rain or snow storms, surface fog, and to a lesser extent, with dust and haze aloft. These obstructions to visibility have been discussed in a preceding section. The occurrence of various elements which affect parachute operations classified by air flow patterns is shown in TABLES V - 8 through V - 14.

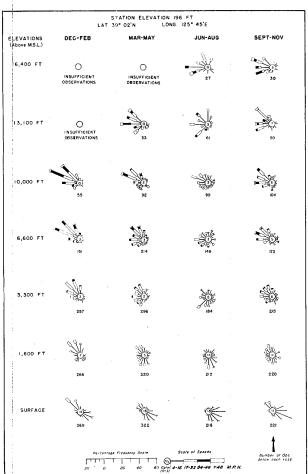


FIGURE V-17. Upper Air Wind Roses for Pyongyang.

TABLE V-4

FREQUENCY OF OBSERVATIONS WITH WEATHER SUITABLE FOR HIGH-LEVEL BOMBING OPERATIONS* (L.C.T.)

	IAN	ı Feb	MAF	Apr	May	Jun	Jul	Aug	SEP	ОСТ	Nov	DEC	Yrs Rec
SONGIII	N.						•						10
1800		11.7	13.3	8.3	7.2	3.8	3.8	5.2	9.1	14.5	16.7	16.4	
0600	18.6	14.9	16.6	10.0	7.6	4.6	4.6	6.1	12.6	17.4	16.6	18.5	
WONSA	N												10
1800	19.9	15.2	13.0	8.8	8.6	4.9	4.7	6.6	12.0	17.5	17.9	17.8	
0600	22.2	17.3	15.1	1.0.1	11.2	5.3	4.2	5.3	10.1	17.1	18.9	19.7	
KANGN	UNG												10
1800	18.5	12.9	12.6	7.6	9.3					15.5			
0600	21.9	16.8	15.5	7.6	9.5	6.2	5.9	6.4	10.2	17.2	18.7	19.0	
PUSAN													10
1800	15.6	12.2	11.2	9.4	11.0					13.4			
0600	18.0	16.3	14.7	7.6	8.6	5.2	4.7	6.0	8.6	15.2	16.0	17.8	
MOKP'O													10
1800	8.3	7.6	10.6	8.3	11.4					14.8		7.2	
0600	8.2	7.2	11.7	8.6	7.6	5.3	3.4	6.7	9.4	13.5	11.2	9.9	
INCH'OI	N												10
1800	14.4	13.3	12.6	7.6	10.2		7.3	6.5	10.4	14.4	12.1	11.9	
0600	18.5	16.0	15.6	7.7	8.6	5.7	2.9	5.2	10.8	16.6	15.5	16.3	
CHEJU													10
1.800	2.6	3.6	8.2	8.7	10.4	6.8				9.6		4.1	
0600	2.7	4.5	8.5	7.6	8.0	5.3	8.4	6.4	5.8	8.6	6.5	5.0	
* Cloudi	ness 3	30%	or les	s, wit	h no	obstr	uctio	n to v	risibil	ity.			

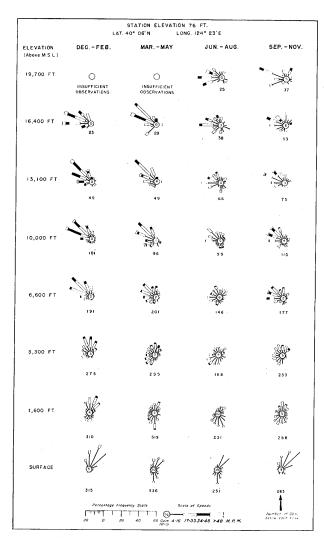


FIGURE V-18. Upper Air Wind Roses for Sinuiju.

TABLE V - 5

FREQUENCY OF OBSERVATIONS WITH WEATHER SUITABLE FOR INCENDIARY BOMBING* (L.C.T.)

	JAI	n Fei	MAR	APR	MAY	Jun	Jul	Aug	SEP	Ост	Nov	DEC	YRS REC.
SONGJI	N												10
1800	4.6	2.8	7.8	9.3	6.9	2.8	3.0	3.9	5.0	5.9	4.6	2.7	
0600	2.8	2.2	2.2	1.1	0.4	0.3	0.2	0.5	1.1	1.1	2.6	3.1	
WONSA	N											•	10
1800	3.1	1.2	3.3	3.5	4.5	0.4	0.6	0.3	0.8	1.3	2.5	2.0	
0600	2.1	1.4	1.3	0.6	1.3	0.1	0.2	0.6	0.4	0.8	1.6	2.3	
KANGN	UNG												10
1800	6.6	3.7	4.5	3.7	2.8	0.7	0.6	0.3	0.4	1.4	3.5	5.2	2.0
0600	7.2	3.9	5.2	2.9	3.1	1.0	0.9	0.3	0.7	2.6	3.8	6.0	
PUSAN											5.0	0.0	10
1800	3.2	2.9	4.9	4.0	2.5	1.8	2.8	2.2	2.5	2.8	2.1	3.7	• 0
0600	6.4	6.7	6.9	3.1	1.8	1.4	3.2	2.6	2.7	3.1	4.4	7.1	
MOKP'O	1						-			J		,	10
1800	12.4	12.0	14.2	9.2	6.6	3.0	3.9	2.5	6.1	10.0	9.1	11.4	
0600	6.2	6.9	7.2	3.9	2.1	0.9	2.7	1.2	2.1	4.1	5.0	6.0	
INCH'O	4										,,,	0,0	10
1800	8.4	9.4	11.3	9.3	8.1	3.2	3.2	3.5	5.8	6.7	8.0	6.5	
0600	7.4	5.8	6.7	4.8	2.9	1.4	2.6	2.0	1.8	3.5	6.3	5.5	
CHEJU									,	2.7	0.5	,,,	10
1800	11.8	10.2	12.9	10.3	6.9	8.3	7.1	8.8	6.7	8.5	8.0	11.3	,
0600	12.5	10.4	8.6	4.6	3.8	3.5	3.4	3.1	3.2	7.5		11.5	

Wind speed greater than 12 m.p.h. and no precipitation at the time of observation.

(5) Incendiary bombing.

Successful incendiary bombing operations depend upon several factors, most important of which, from the meteorological standpoint, are the relative dryness of the objective at the time of bombing and the presence of sufficiently strong winds to spread the fires. The criteria used in Table V - 5 are an absence of precipitation at the time of observation and the occurrence of surface wind speeds greater than 12 m.p.h. In general, conditions favorable for incendiary bombing occur most frequently in the spring and winter seasons and least frequently in summer. Because of the wind limitation, favorable conditions occur most frequently at coastal locations where the mean wind speeds are high, such as Mokp'o and Cheju. The frequency of favorable conditions by air flow patterns is given in Tables V - 8 to V - 14.

C. Naval operations.

The many variable factors connected with the planning of naval operations will determine the weather conditions that will be desired for a specific attack. Since the probability of favorable weather can be established only after limiting conditions have been specified for a particular operation, this topic is limited to a general discussion of the weather elements most important from an operational standpoint—wind, sea and swell, cloud cover, and visibility. This section of the report deals with the above weather elements as they are observed in the Huang Hai (Yellow Sea) and in the Sea of Japan south of 40°N.

(1) Winds.

For the most part, the weather over the seas is controlled by the northerly and southerly monsoons, cyclonic depressions and occasional typhoons. From October through March both seas are frequented by an almost unbroken flow of cold air from the continental interior. Winds are strong and steady and normally prevail from a northerly direction. During April, the northerly winds are replaced by weaker, more irregular southerly winds which characterize the summer monsoon period (May-August). The transition from summer to winter monsoon conditions takes place during September when northerlies are reported more frequently than southerlies.

Over the open water wind speeds average about 10 to 16 knots during the winter monsoon (October-March), although velocities occasionally increase to 27 to 33 knots. During the summer monsoon (May-August), on the other hand, winds are usually much lighter, averaging between 6 to 10 knots. Velocities are least in the northern portion of the Huang Hai.

Gales (winds of 34 knots or more) are most frequent during the winter monsoon (October-March) when they are reported in 2% to 7% of the observations. From April through September (summer monsoon and transition months), gales are more often southerly and decrease to a frequency of less than 3%. In all seasons, gales are least frequent in the north Huang Hai and most common in the Chōsen Kaikyō (Korea Strait).

(2) Sea and swell.

Seas are persistently from the north (50% to 80% of the time) during the winter monsoon (October-March). During these months, medium seas (2 to 9 feet) prevail, with high seas (greater than 9 feet) being recorded in more than 20% of the observations. During the summer monsoon (May-

August) and the transition months (April and September) sea directions are quite variable but southerly seas predominate. Seas are less than 2 feet high from 40% to 60% of the time from April through September. The maximum number of low seas occur in June and July.

No swell data are available for the Huang Hai and data for the remainder of the area are based on too few observations to present a very accurate picture. The predominance of northerly swell, however, is quite evident during the winter monsoon (October-March) although 20% to 50% of the observations report no swell at all. During this period swell is higher than 6 feet 20% to 60% of the time. Southerly swell is most frequently observed during the summer monsoon (May-August) while directions during April and September are very variable. During the summer monsoon the frequency of observations reporting no swell is 30% to 70% and swell greater than 6 feet is observed less than 30% of the time.

More complete information regarding sea and swell may be found in Chapter III.

(3) Cloudiness.

Cloud cover over the open sea is usually very different from that observed on the coast, the contrast between conditions near the land and those over the water being most marked during the winter monsoon (October-March). During this season, the sea is much warmer than the air, especially in the south; and as a result, the northerly monsoon not only becomes warmed but picks up much moisture during its passage southward. Consequently, much cloud normally prevails in the south and precipitation in the form of rain or snow is frequent. Mean cloud cover for the area as a whole averages 50% to 60% with a maximum of 70% over the southern waters. Cloudiness in general decreases from a maximum in January to a secondary minimum in April and then increases to a secondary high in June or July. The increase in June or July is associated with the arrival of true maritime tropical air. During the summer monsoon (May-August), however, the average amount of cloud is less over the open sea than over the land. August shows an appreciable decrease in cloud amount, the average cover being about 50%. This decrease in August is followed by a slight increase in September when the northerly monsoon first sets in, but later the amount again decreases reaching its absolute minimum in October. October has a mean of less than 50%. The following tabulation gives the mean cloud amount for ocean squares.

MEAN CLOUD AMOUNT (%)

171111	TT 4 .		, 0 -			,		· /	<i>u</i> ,				
Arba	J	F	M	A	M	J	J	A	S	O	N	D	Annual
30°-35°N, 120°-125°E	69	68	56	59	60	69	63	46	55	50	60	66	60
30°-35°N, 125°-130°E	70	69	61	59	61	72	57	48	55	51	59	67	61
35°-40°N, 120°-125°E		48											
35°-40°N, 130°-135°E	61	66	53	42	43	57	54	44	49	47	48	52	51

(4) Visibility.

Visibility is usually good during the winter monsoon (October-March) and poorest during the summer monsoon (May-August), being reduced most frequently by fog and precipitation. Sea fog is very seldom experienced during the period September through March for throughout the greater part of this period cold northerly winds normally prevail, and the mean temperature of the sea is considerably higher than that of the air. Over the open sea fog is reported in fewer than

5% of the observations, and even coastal areas do not report fog more than 2 days a month. From April through August fog is reported over open sea areas in 10% to 20% of the observations and along the coast on 4 to 10 days a month. Fog frequency is greatest in coastal areas and in northern sections of the seas.

Precipitation is most frequent over the sea during the winter monsoon though the amount received is greatest during the summer monsoon. The amount of precipitation increases from north to south. Precipitation is reported in 5% to 10% of the observations taken in the northern section of the Huang Hai but appears 10% to 30% of the time in the remaining ocean areas.

The frequency of precipitation in the south decreases to less than 20% in April and May. In June, however, rainfall frequency increases in all sections to a 20% to 30% summer maximum though the increase is less marked over the open sea than over land. The frequency of precipitation then decreases to 5% to 20% from July through September.

Thunderstorms with moderate to heavy rain or snow develop occasionally over the Huang Hai in winter.

In addition, visibility over coastal waters is reported to be reduced on 1 to 2 days during the winter monsoon by haze resulting from dust and sand which has been carried over the sea by northerly gales. Such conditions are primarily limited to the Huang Hai.

D. Amphibious operations.

This section is restricted to a discussion of the relationships between surface wind speeds, synoptic weather patterns, visibility and cloudiness. The important factor of the state of the sea is discussed in detail under naval operations and is not considered here.

(1) Surface winds.

The relationship between surface wind speed and wave height depends upon a number of factors, including the exposure of the particular coastal area being considered, the fetch or distance over which the wave-producing winds blow, and the depth of the coastal waters. Because of the very great irregularities in the coastline of Korea, it is impossible to generalize regarding conditions favorable or unfavorable for amphibious operations. Surface winds are usually strongest when the local topography tends to strengthen the general air flow and are weakest when local winds oppose the general air flow. Surface wind roses for 2 stations, Cheju and Inch'on, have been drawn for the purpose of showing the relation of mean wind speed to direction (FIGURE V - 10). The conditions illustrated in these wind roses are repeated with numerous variations all along the coasts. Amphibious operations are normally considered feasible with onshore winds of less than 13 m.p.h. or with offshore winds. In winter offshore winds are prevalent along the entire length of the east coast, and, considering the wind factor alone, major landings should be feasible anywhere from Unggi to Pusan. The least favorable section for successful landings in winter is the southwest coast from Inch'on to Sunch'on. In the summer season, the feasibility of landings would be largely dependent upon the synoptic situation, since both wind direction and wind speed are extremely variable.

(2) Land-sea breezes.

The time of day at which amphibious landings may be aided or hindered by the local winds depends largely upon the presence or lack of land and sea breezes. These diurnal winds are not sufficiently frequent along the coasts of Korea to be indicated in mean tables of wind since their effects are largely masked by the shifting winds of passing cyclonic disturbances in the warmer months of the year and by the dominant monsoonal winds of the winter season. However, land and sea breeze effects can be noted during certain synoptic situations in summer. These situations require very weak pressure gradients and clear skies to accentuate the differential heating of adjacent bodies of land and water. In the daytime, the land heats to a greater extent than the adjacent sea, resulting in a component of the wind direction from the sea towards land. The sea breeze ordinarily sets in around 0900, reaches its maximum strength in midafternoon, and finally dies out in the evening. The land breeze, much weaker and of shorter duration than the sea breeze, ordinarily sets in about 2200 and dies out shortly after sunrise or it may be entirely absent. Where the sea breeze is in the same direction as the prevailing wind, the strongest winds of the season will occur in midafternoon, sometimes attaining wind speeds of 12 to 18 m.p.h. The weakest winds occur in the early morning and again in the evening at the time of change between the land and sea breezes.

(3) Visibility.

Visibility has been discussed in some detail in connection with air and naval operations. However, it is desirable at this point to emphasize certain visibility relationships along the coastal regions. The most important restriction to visibility with reference to amphibious operations is the occurrence of sea fog in the spring and summer months. This fog forms over the open waters of the Huang Hai and the Sea of Japan and drifts in along the coast with onshore breezes. Where onshore breezes persist both day and night, the fog penetrates farthest inland during the night hours because there is less dissipation of the fog by convectional currents at that time of day. Fog that blankets the coastline may make the identification of landing places impossible. While the coastal regions and adjacent seas are blanketed with fog, interior airfields are frequently clear. These fog conditions are frequent only in the period from late March through July, with maximum occurrence in June. At other seasons of the year visibility conditions along the coasts do not differ materially from visibility conditions elsewhere in Korea.

(4) Cloudiness.

Cloudiness has been discussed in some detail in connection with low-level bombing operations, but it is desirable to emphasize some of the coastal relationships which may have an important bearing on amphibious operations. In the cooler months of the year, the prevailing winds are off the continent of Asia and the skies are clear wherever the air flow has been entirely over land. But as these air streams move over the relatively warm seas, they rapidly acquire moisture in their lower levels and turbulence within the lower levels results in the formation of decks of stratocumulus clouds. These stratocumulus decks afford concealment to approaching amphibious forces. At the same time, large sections of the coastline are clear,

affording full opportunity for air protection to the amphibious forces at the time of landing. The entire east coast and sections of the northwest coast are most likely to be free. On the other hand, the prevailing winds in winter drift the clouds over the windward coasts, affording concealment throughout the entire operation. Windward coasts in winter include the southwest coast from the vicinity of Inch'on to the vicinity of Sunch'on, and the northerly and westerly coasts of the large islands.

In the warmer months of the year, conditions are slightly different. Stratus clouds are the most frequent type of low cloud; they are formed under conditions previously described as favorable for surface fog, but with somewhat more wind which affords sufficient turbulence in the lowest layers to cause the formation of low clouds rather than surface fog. These stratus sheets are carried to the coasts by southerly winds, and there are few, if any, sections which are dependably free of cloud. During periods of intense insolation, the coastal regions are clear with the stratus cloud decks a short distance offshore in the daytime, but with the clouds moving inland over the coastline at night. Conditions are not favorable for the formation of stratus during periods of frontal activity.

E. Chemical warfare.

Meteorological conditions favorable for chemical warfare are stable conditions in the lower levels of the atmosphere, low surface wind speeds, and no precipitation.

(1) Surface wind speeds and directions.

Light winds are desirable for the spreading of chemical agents, but heavy winds cause too rapid a dispersal for the maximum efficiency of the agents. Wind speeds of 4 to 12 m.p.h. are considered the most effective, and the average number of observations with wind speeds in this group may be readily obtained for selected stations from TABLE V-34. In general from 1/2 to 2/3 of the days have wind speeds within the desired range; the exceptions are the following: Along the coasts, calms or very light winds unsuited for chemical warfare are most likely to occur in the early morning hours, while the number of observations with suitable winds increases to 20 to 25 a month in the afternoon hours. Along the east coast, the number of observations with suitable winds drop to 1/3 to 1/2 in the summer months, particularly in the morning when calms or very light winds are probable. Calms and very light winds also occur more often than gentle winds of 4 to 12 m.p.h. in the inland valleys, such as the upper Amnok-gang in the vicinity of Ch'osan and Chunggangjin.

(2) Turbulence and stability.

Stable atmospheric conditions are usually associated with weak pressure gradients and occur within or along the borders of high pressure areas. These conditions occur most frequently in Korea in the summer and occasionally in the spring and autumn seasons when high pressure is established. The occurrence of fog and stratus clouds is sometimes taken as indicating stable conditions in the lowest levels of the atmosphere. As shown in the discussion of fog, this phenomenon is most frequent in the spring and early summer months from late March through July. The distribution of stratus clouds is very similar to that of surface fog, with the exception that in some localities the maximum occurrence is delayed until July. The best con-

ditions with regard to stability occur when high pressure overlies the peninsula and clear skies are predominant except for local fogs in valleys in the interior. These conditions are most likely to occur in the transitional seasons, particularly in the spring. In the summer, local heating is the cause of convectional turbulence in the lower levels over land surfaces, and sometimes results in local thunderstorms.

(3) Temperature.

The rate of evaporation of chemical agents is largely determined by the temperature. In warm weather, vaporization is accelerated, while in subfreezing weather it is practically stopped. In Korea the temperatures are seldom high enough to interfere with efficient use of chemical agents. Furthermore, under circumstances attending the occurrence of high temperatures, convectional air currents are strong and the factor of vertical dispersal is far greater than that of accelerated vaporization. Low temperatures, particularly in northern Korea, are common in the winter season. The lowest temperatures occur in the early morning hours when stability is the greatest. Temperatures are most favorable in the spring and autumn when conditions of stability are also the most favorable.

(4) Humidity.

The effect of humidity varies with different chemical agents. In the summer months humidities are almost without exception too high for successful use of persistent agents. Suitable ranges of humidity are most likely to occur in the transitional seasons along with other suitable factors.

(5) Synoptic weather patterns favorable for chemical warfare.

TABLE V 6 shows the frequency of conditions suitable for chemical warfare; the criteria used are winds of 3 to 12 m.p.h. and no precipitation at the time of observation. It should be noted that the important consideration of stability is not transmitted in synoptic reports and could not be used as a criterion in evaluating synoptic data. The data are also shown by air flow types in TABLES V - 8 to V - 14.

TABLE V-6

FREQUENCY OF OBSERVATIONS WITH WEATHER SUITABLE FOR CHEMICAL WARFARE* (L.C.T.)

													YRS
	JAN	FEB	MAR	Apr	MAY	Jun	Jul	Aug	SEP	OCT	Nov	DEC	REC
SONGIIN	ī												10
1800		13.3	15.4	13.6	14.7	15.8	14.7	13.4	16.2	17.2	17.6	18.5	
0600	20.4	18.0	16.2	13.2	13.7	8.6	6.9	10.2	15.9	18.3	17.5	20.0	
WONSAL	J												1.0
1800		15.2	16.9	16.5	17.8	20.5	17.7	16.0	19.3	19.1	17.7	18.1	
0600	19.3	14.9	15.7	14.4	12.6	8.6	9.0	10.2	16.5	18.4	17.2	15.7	
KANGNI	ING												10
		11.9	14.3	16.3	13.5	11.3	9.4	8.5	9.6	9.3	14.7	15.2	
0600								10.3	18.1	23.0	19.5	17.9	
PUSAN													10
	20.8	18.0	21.8	19.5	23.4	21.7	21.6	22.4	19.4	16.8	17.8	19.9	
0600	17.9	14.0	15.8	14.3	12.6	11.6	12.9	11.7	12.8	15.3	15.2	16.6	
мокр'о													10
1800	10.9	10.5	11.2	15.1	19.6	21.2	21.2	22.0	19.0	16.1	15.4	13.0	
0600								14.2					
INCH'ON	J												10
1800		16.4	16.7	16.6	19.8	23.9	23.6	22.5	20.1	21.4	18.4	18.9	
0600	19.2	17.5	19.1	18.9	20.7	18.5	16.5	19.9	22.4	22.9	20.0	20.8	
CHEIU													10
1800	10.6	11.1	11.8	12.3	17.6	15.3	17.8	16.5	16.5	15.1	13.6	22.2	
0600	9.9	11.2	16.6	18.1	19.6	17.0	16.8	19.3	21.3	21.1	16.4	13.0	ı
* Winds	3 to	12 n	ı.p.h.	witho	out pr	ecipit	ation	at the	tim	e of c	bserv	ation.	

54. Gradient Air Flow, Forecast Problems, and Synoptic Weather Types

A. Gradient air flow.

Synoptic charts for a period of 5 years have been examined with reference to the gradient air flow over Korea, the country being divided into 2 sections by a line drawn from Kaesong near the west coast to Kosong on the east coast. The frequency of the various types of air flow is given in terms of the percentage of the total occurrence in TABLE V - 7; the types of air flow are divided into primary and secondary types according to their frequency.

TABLE V - 7
PERCENTAGE FREQUENCY OF TYPES OF FREE AIR FLOW
PRIMARY TYPES SECONDARY TYPES
SECONDARY TYPES

					South	ern Kore	ea .					
					:	RIDGE				T	ROUG	
			,			AND					AND	OR INDE-
	N	NE	SE	SW	NW :	High	Е	S	W		Low	TERMINATE
Winter	28	21	6	. 2	24	7	5.	. 1	2		2	1
Spring	6	12	7	10	- 23	18	3	4	6		5	7
Summer	0	4	16	25	. 8	17	4	8	2		9	7
Autumn	10	18	6	6	21	18	6	1	3		4	6
•					North	ern Kor	ea					
					RIDGE	TROUG	н					COL
					AND	AND						OR INDE-
	N	NE	sw	NW	HIGH	Low		E	SE	S	W	TERMINATE
Winter	24	35	4	11	16	3		2	2	1	1	1
Spring	8	11	28	14	13	12		2	2	3	6	3
Summer	2	-3	45	5	13	12		1	2	7	4	6
Autumn	11	16	18	14	20	7		1	2	2	5	6

In winter the Asiatic anticyclone is the dominant feature of the synoptic maps, with cold, dry air outflowing from the continent of Asia towards lower pressure off the coast of East Asia. Northwesterly, northerly, and northeasterly are the predominant types of air flow in this season, accounting for 73% of all occurrences in southern Korea and $70\,\%$ in northern Korea. These air flow types are also quite frequent in the spring and autumn seasons, occurring 41% of the time in northern Korea and 33% in southern Korea in the spring, 49% in northern Korea and 41% in southern Korea in the autumn. As the winter anticyclone breaks down over the continent, high pressure centers or ridges of high pressure appear more frequently over the peninsula of Korea, occurring 18 % of the time over southern Korea in spring and autumn and 17% of the time in summer. The occurrences over northern Korea are not truly typical, since they include occurrences over southeastern Manchuria.

In summer southerly air flow of maritime air masses of subtropical or equatorial origin predominates over Korea. In summer southeasterly, southerly, and southwesterly air flow types prevail over southern Korea 49% of the time and 52% over northern Korea. They are reported 21% of the time in the spring and 13% of the time in the autumn in southern Korea, and 44% of the time in the spring and 34% of the time in the autumn in northern Korea. Troughs and lows, indicative of a low pressure trough lying between the mainland of Asia and the Japanese archipelago, are most frequent in the spring and summer seasons, occurring 12% of the time over northern Korea and 5% to 9% of the time over southern Korea.

The frequency of various groups or ranges of meteorological elements varies quite markedly with the different types of free air flow. These have been summarized for the primary types of air flow and are briefly discussed in the following paragraphs.

(1) Northerly type of air flow (TABLE V-8).

The northerly type of air flow is important in the winter, occurring 24% to 28% of the time in that season; it also occurs 10% to 11% of the time in autumn, but it is relatively unimportant in spring and summer. The most striking feature of the northerly air flow in winter is the difference in cloudiness between Mokp'o in the southwest, Cheju on the north coast of Quelpart, and the stations exposed to the unmodified continental flow such as Inch'on and Pusan. At the former places, 70% to 90% of the occurrences in the morning and 60% to 80% of the occurrences in the afternoon record overcast conditions or overcast with breaks (90 % to 100% sky cover); at the latter places, 65% to 75% of the observations in the morning and 60% to 70% of the observations in the evening record clear skies (00% to 30% sky cover). With northerly air flow, precipitation occurs much more frequently at Mokp'o and Cheju than at other places.

TABLE V-8 SUMMARY OF LOCAL WEATHER CONDITIONS ASSOCIATED WITH NORTHERLY FLOW IN THE FREE AIR Percentage of Observations at which Certain Weather Conditions have been Recorded

A B C D E F G H I L M 00-30 40-60 70-80 90 0600 L.C.T. SOUTH KOREA Winter	-100
SOUTH KOREA	
Winter	
	21
	27
	24
	71
Cheju 0 15 0 15 15 32 6 24 59 68 39 6 2 2 5	00
Spring	
	12
	35
	í8
Mokp'o 0 8 0 8 8 29 42 50 38 81 58 42 4 4 5	0
Cheju 0 4 0 4 4 15 23 54 35 84 46 23 8 4 6	55
Summer	
Kangnung 0 0 0 0 0 0 33 100 0 100 33 33 0 0	67
	57
	4
	67
	4
Autumn	
	:3
	!1
	35
	50
	6
NORTH KOREA	
Winter	
	_
	.5
	4
Spring Songjin 5 0 0 5 16 54 49 22 89 76 54 0 5 4	
	1
	27
Summer	
	2
	3
Autumn	
	9
Wonsan 0 10 0 10 10 15 56 64 8 89 78 55 6 4 3	5

^{*} Definitions of weather conditions designated by letters

- Fog
- Precipitation
- Thunderstorm
- Overcast with precipitation
- Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)
- Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.) Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)
- Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)
- Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30 %, and no obstructions to visibility.
- No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

						Тан	BLE V-8	Continu	ed						
	•			_	-					_			CLOUD C	OVER (%	5)
·	A	В	С	D	E	F	G.	Н	I	L	M	00-30	40-60	/0-80	90-100
COLUMN TODAY							1800	L.C.T.							
SOUTH KORE	A												•		
Winter															
Kangnung	0	5	0	5	5	7	64	50	20	94	76	64	2	4	30
Inch'on	1	6	0	6	6	15	67	48	41	88	77 .	67	- 5	4	24
Pusan	0	4	0	4	4	10	60	66	10	92	80	60	2	3	35
Mokp'o	0	18	0	18 17	18 18	38 35	27 8	23	59 53	70 64	41	27 8	5 5	6	62 81
Cheju	0	18	0	17	18	. 53	8	23	23	64	17	8)	0	81
Spring								1							
Kangnung	0	24	0	24	24	27	24	28	8	76	36	24	4	4	68
Inch'on	0	4	0	4	4	18	44	48	48	88	72	44	8	0	48
Pusan	0	12	0	12	12	29	36	72	4	76	52	36	12	4	48
Mok _F 'o	0	12	0	12	12	44	40.	0	88	72	52	40	0	8	52
Cheju	0	12	0	12	12	24	40	36	48	76	48	40	0	12	48
Summer															
Kangnung	0	0	0	0	0	0	0	0	0	100	100	0	0	0	100
Inch'on	0	0	0	0	0	0	0	100	0	100	100	0	0	0	100
Pusan	0	0	0	0	0	0 .	0	100	0	100	0	0	0	0	100
Mokp'o	0	. 0	0	. 0	0	0	0	100	0	100	100	0	0	0	100
Cheju	0	0	0	0	0	0	0	0	0	100	0	0	0	. 0	100
Autumn															
Kangnung	0	5	0	5	5	6	60	40	13	95	68	62	0	8	30
Inch'on	0	3	0	3	3	3	66	53	37	97	90	66	8	5	21
Pusan	0	3	0	3	3	4	50	58	8	97	74	50	0	10	40
Mokp'o	0	8	0	8	8	30	- 33	26	67	77	54	34	. 3	5	58
Cheju	0	8	0	8	8	16	26	42	45	84	37	26	5	3	66
NORTH KORI	E A														
	LA														
Winter			_		_			-							
Songjin	1	7	0	. 7	7	9	73	60	21	91	81	73	5	3	19
Wonsan	0	1	0	1	1	1	82	69	18	97	93	82	5	3	10
Spring															
Songjin	0	6 -	0	6	.6	8	48	58	24	91	62	48	3	0	49
Wonsan	0	9	0	9	9	14	52	58	6	88	71	52	3	9	36
Summer															
Songjin	0	0	0	0	0	0	75	50	25	100	75	75	0	0	25
Wonsan	Ö	0	Ö	Ö	Ö	67	50	100	0	50	50	50	Ö	, ,	50
Autumn								i							
Songjin	0	4	0	4	4	5	67	49	16	96	74	68	4	6	22
Wonsan	0	2	0	. 2	2	5	67	57	18	96	84	68	4	6	22

^{*} Definitions of weather conditions designated by letters

Fog A

В Precipitation

C Thunderstorm

Overcast with precipitation

Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.)

Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)

Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.) Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30 %, and no obstructions to visibility.

No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

(2) Northeasterly type of air flow (TABLE V - 9).

This type of air flow is most important in winter, occurring 21% to 35% of the time and is quite important in autumn, occurring 16% to 18% of the time. As compared with the northerly air flow, there is an increase in the percentage of the

number of occasions on which overcast or overcast with breaks is reported at Kangnung, Inch'on and Pusan, particularly in the afternoon hours. There is also an increase of precipitation at Kangnung and Pusan when compared with the northerly air flow.

TABLE V - 9
SUMMARY OF LOCAL WEATHER CONDITIONS ASSOCIATED WITH NORTHEASTERLY FLOW IN THE FREE AIR
Percentage of Observations at which Certain Weather Conditions have been Recorded

		P	ercemage	e or Obs	CI VALIOIIS	at winc	II Certan	n weath	er Coliqi	nons nav	e been in				
	* A	В	С	D	Е	F	G	н	I	L	M	00-30	CLOUD CO 40-60	ver (% 70-80	
	Λ	ь	C	, D	L	1			1	L	141	00-50	40-00	/0-00	90-100
CONTRACTOR							0600 1	L.C.1.							
SOUTH KORE	Λ														
Winter		0.2	0	22	22	25	51	60		77	(0	50	2	-	40
Kangnung	0	23	0 0	22 7	23 8	25 12	64	58 76	8 16	77 92	60 84	50 64	3 6	7	40
Inch'on	1	7 16	0	16	16	29	39	76 58	15	92 78	63	39	8.	1	29 48
Pusan	0	16	0	16	16	32	39 33	98 42	13 34	78 74	50	39 33	8. 5	5 0	48 62
Mokp'o	0	22	0	22	22	34	55 14	42	34 33	66	20	22 14	5	4	77
Cheju	U	22	U	22	22	24	14	42	22	00	20	14)	4	//
Spring	_	10	0	10	21	25	22	26	•	70	2.2	20	•		(0
Kangnung	2	19	0	19	21	25	22	36	3	79	33	20	3	9	68
Inch'on	3	2	0	2	4	9	49	72	15	96	88	49	9	5	37
Pusan	0	10	0	10	10	28	27	64	9	76	45	27	1	5	67
Mokp'o	3	10	0	10	15	41	34	45	31	72	55	34	3	2	61
Cheju	0	19	0	19	19	22	18	54	19	78	37	18	4	9	69
Summer			_						_						
Kangnung	0	35	0	35	35	39	20	25	0	65	30	20	10	5	65
Inch'on	0	15	0	10	15	22	60	55	10	80	80	63	0	0	37
Pusan	0	15	0	15	15	33	15	50	5	80	55	15	15	20	50
Mokp'o	5	10	0	10	15	36	30	50	10	80	65	30	0	10	60
Cheju	0	5	0	5	5	25	15	65	10	75	40	15	15	15	55
Autumn															
Kangnung	0	16	0	16	16	18	41	61	3	84	53	41	8	6	45
Inch'on	0	1	0	1	1	4	70	90	3	97	88	71	2	2	25
Pusan	0	11	0	11	11	16	49	61	7	86	61	49	2	8	41
Mokp'o	0	3	0	3	3	14	44	41	20	91	58	44	7	3	46
Cheju	2	10	0	10	12	19	27	64	19	80	39	28	7	3	62
NORTH KORE	EΑ														
Winter													•		
Songjin	1	20	0	20	20	23	54	58	12	78	62	53	4	3	40
Wonsan	0	17	0	16	17	27	55	47	8	78	68	55	1	5	39
Spring														-	• • •
Songjin	0	14	0	14	14	23	33	46	7	82	56	33	7	0	60
Wonsan	0	19	0	19	19	47	33	32	5	63	51	33	4	5	58
Summer								. –	-				-		,,,
Songjin	6	11	0	11	17	21	28	33	0	78	56	28	22	6	44
Wonsan	0	11	0	11	11	38	44	22	6	72	61	44	11	0	45
Autumn		11	v	11	11	50	-1-1	22	v	14	01	TT	11	U	4)
Songjin	0	12	0	12	12	15	40	60	7	87	52	40	0	1	5.1
Wonsan	0	19	0	19	19	27	40 47	47	4	87 79	61	40 47	8	1 4	51 46
w onsan	U	19	U	19	19	21	4/	417	1	17	OI	· 'F/		4	40

^{*} Definitions of weather conditions designated by letters

E Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

A Fog

B Precipitation

C Thunderstorm

D Overcast with precipitation

F Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky G Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.)

H Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)

I Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)

L Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30 %, and no obstructions to visibility.

M No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60 %. (Favorable for low- and medium-level bombing.)

						_									
TABLE V - 9 Continued * CLOUD COVER (%)														,	
	* A	В	c ·	D	E	F	G	Н	I	L	M	00-30	40-60	70-80	
							1800	L.C.T.							
SOUTH KORE	A														
Winter															
Kangnung	0	24	0	24	24	29	32	41	4	76	47	32	2	1	65
Inch'on	0	4	0	4	5	22	41	73	20	89	79	41	5	3	51
Pusan	0	18	0	18	18	30	33	69	2	76	55	33	3	4	60
Mokp'o	2	13	0	13	15	37	2.2	21	66	80	56	22	5	6	67
Cheju	0	21	0	21	21	. 33	12	48	28	66	23	12	5	3	80
Spring															
Kangnung	0	12	0	12	12	` 16	27	54	2	88	46	27	2	0	71
Inch'on	2	10	0	10	12	16	29	62	26	88	62	29	2	2	67
Pusan	0	24	0	24	24	58	10	. 55	14	55	29	10	7	0	83
Mokp'o	.2.	29	0	29	31	56	19	29	38	64	45	19	2	2	77
Cheju	0	29	0	29	29	36	17	39	27	63	36	17	7	2	74
Summer						·									
Kangnung	0	23	. 0	23	23	33	8	15	0	77	38	8	8	0	84
Inch on	0	0	0	0	0	14	38	85	15	92	100	39	. 15	8	38
Pusan	0	8	0	8	8	17	15	85	0	85	31	15	8	8	69
Mokp'o	0	0	0	0	0	-29	23	85	8	85	62	- 23	15	0	62
Cheju	0	15	0	15	15	31	23	62	15	69	62	23	23	15	39
Autumn															
Kangnung	0	18	0	18	18	- 22	22	23	0	82	40	22	6	8	64
Inch'on	0	4	0	4	4	10	57	78	11	92	81	58	6	6	30
Pusan	0	11	0	11	11	20	35	65	.8	85	62	35	6	4	55
Mokp'o	0	6	0	6	6	27	40	49	42	85	62	41	1	5	53
Cheju	0	10	0	10	10	16	28	52	21	82	49	28	10	14	48
NORTH KORI	R.A.														
Winter	J. L.														
	0	27	0	27	27	32	39	44	12	71	46	39	1	5	55
Songjin Wonsan	0	14	0 .	14	14	22	52	46	5	81	70	52	3	5	40
	U	. 14	0.	1-1	1.1	22)2	40		01	70	74	,	,	40
Spring		- 4		~ /	- /			/0	_				_	_	
Songjin	0	24	0	24	24	33	12	42	7	73	34	12	5	5	78
Wonsan	0	29	0	29	29	54	12	34	5	66	51	12	7	5	76
Summer								:							
Songjin	0	0	0	0	0	17	10	80	0	90	50	10	20	20	50
Wonsan	0	10	0	10	10	60	40	70	0	70	78	40	10	0	50
Autumn								1							
Songjin	0	21	0	21	21	23	28	53	6	78	36	28	3	5	64
Wonsan	0	16	0	16	16	34	36	49	3	. 73	55	36	8	4	52

^{*} Definitions of weather conditions designated by letters

Fog

Precipitation

Thunderstorm

Overcast with precipitation

Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40 % or more of the sky Cloudiness 30 % or less, with no obstruction to visibility. (Favorable for high-level bombing.)

Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)

Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)

Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30 %, and no obstructions to visibility. No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

(3) Northwesterly type of air flow (TABLE V - 10).

This type of air flow is most important in winter, occurring 16% to 24% of the time. It is more important than either the northerly or northeasterly air flow in the transitional seasons, occurring 13% to 23% of the time in the spring and 20% to 21% of the time in the autumn. In contrast to the

northerly and northeasterly types of air flow, conditions are better at Kangnung and poorer at Inch'on. Conditions are generally poorer in the evening hours than in the morning hours. The 3 types of air flow (northerly, northeasterly, and northwesterly) compose the large majority of weather conditions in winter, spring, and autumn.

SUMMARY OF LOCAL WEATHER CONDITIONS ASSOCIATED WITH NORTHWESTERLY FLOW IN THE FREE AIR Percentage of Observations at which Certain Weather Conditions have been Recorded

		r	ercentag	e or Ub	servation	is at whi	ich Certa	ın Weath	ier Conc	litions ha	ve been I				
	A.	В	С	D	E	**							TOUD CO.)
	11	ь	C	D	Е	F	G	Н	I	L	M	00-30	40-60	70-80	90-100
COLUTI IZONE							0600	L.C.T.							
SOUTH KORE	A														
Winter	_														
Kangnung	0	1	0	1	1	1	81	54	35	99	93	81	4	5	10
Inch'on	1	10	0	8	11	14	70	53	24	83	75	70	1	6	23
Pusan	0	1	0	1	1	4	76	55	19	97	88	76	4	2	18
Mokp'o	0	24	0	22	24	45	27	32	22	62	41	27	7	4	62
Cheju	0	19	0	18	19	33	14	30	46	65	15	14	3	4	79
Spring															
Kangnung	2	8	0	8	10	14	60	55	24	89	74	60	. 6	1	33
Inch'on	3	4	0	4	7	24	58	63	25	82	73	58	2	4	36
Pusan	0	2	0	2	2	8	53	58	16	95	80	53	5	5	37
Mokp'o	2	2	0	2	4	22	46	48	22	86	65	46	3	3	48
Cheju	3	7	0	6	, 10	16	42	64	24	84	65	42	9	9	40
Summer															
Kangnung	5	2	0	2	8	10	48	60	10	90	62	50	0	3	47
Inch'on	12	10	0	10	22	58	30	55	12	55	45	30	3	0	67
Pusan	0	8	0	5	8	48	22	40	2	70	53	22	2	8	68
Mokp'o	5	10	0	10	15	55	25	55	2	58	40	25	0	2	73
Cheju	0	18	0	18	18	32	25	68	5	68	50	25	8	7	60
Autumn						,_	/	00		00	70	2)	O	,	00
Kangnung	0	0	0	0	0	0	75	67	22	100	83	75	,	6	16
Inch'on	1	6	ő	6	7	18	52	57	24	85	70	73 52	3 7	4	16
Pusan	Ô	ő	ő	0	ó	0	60	59	5	100	85	61	2	8	37
Mokp'o	2	6	1	5	9	24	36	40	24	84	57	35	10	8 9	29
Cheju	0	7	Ô	7	7	17	20	46	42	82	36	20	11		46
		,	Ü	. '	,	17	20	-10	-12	02	50	20	11	11	58
NORTH KORE	A										-				
Winter															
Songjin	0	2	0	2			0.0				_,				
Wonsan	0	0	0	2 0	2	3	80	61	14	98	84	80	0	0	20
	U	U	U	0	0	3	80	82	4	98	93	80	5	4	11
Spring	•		_												
Songjin	3	0	0	0	3	10	56	55	6	92	78	56	8	8	28
Wonsan	0	2	0	2	2	14	65	63	6	92	89	65	6	1	28
Summer															
Songjin	4	0	0	0	4	8	41	50	0	96	77	46	9	18	27
Wonsan	0	0	. 0	0	0	10	46	50	0	96	86	45	5	14	36
Autumn													-		
Songjin	0	2	0	2	2	2	71	64	8	98	81	72	10	3	15
Wonsan	0	2	0	2	3	2	80	78	5	98	93	80	3	5	12
						-	00	, 0	_	70	15	00	9	,	12

^{*} Definitions of weather conditions designated by letters

 \mathbf{D} Overcast with precipitation

Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.)

G Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.) H

Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)

Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30 %, and no obstructions to visibility. No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

Fog

Precipitation

Thunderstorm

						TABI	EV-10	Continue	ed						
						IADI	7F A - 10	Commin	<i></i>			C	LOUD CO	VER (%)
	• A	В	С	D	E	F	G	Н	I	L	M	00-30	40-60	70-80	90-100
	Λ	Б	C	D				L.C.T.							
							1000	1.0.1.							
SOUTH KORE	A							1							
Winter										00	0.4	72	2	3	22
Kangnung	0	2	0	1	2	1	72	48	37	98	84	73 60	1	4	35
Inch'on	0	3	0	3	3	11	60	60	30	91 96	75 88	65	4	8	23
Pusan	0	2	0	2	2	6	65	70	13	96 72	43	29	6	6	59
Mokp'o	0	16	0	16	16	37	29	44	37 49	65	16	9	5	6	80
Cheju	0	15	0	15	15	34	8	31	48	6)	10	,	,	Ū	00
Spring														_	40
Kangnung	0	8	0	7	8	12	52	42	22	92	74	51	7	2	40
Inch'on	1	3	0	3	4	20	54	46	50	88	81	53	6	3	38
Pusan	0	2	0	2	2	11	50	84	6	93	82	50	2	7	41
Mokp'o	0	-2	0	2	4	16	45	43	50	90	77	45	2	3	50
Cheju	0	8	0	8	8	18	37	51	37	82	63	37	9	8	46
Summer															
Kangnung	0	6	0	6	6	9	41	47	12	94	66	4 1	9	19	31
Inch'on	3	6	ő	6	9	10	56	59	34	91	84	56	13	3	28
Pusan	0	0	0	ő	ó	19	34	84	0	88	62	34	6	6	54
Mokp'o	Ö	-6	ő	6	6	35	34	59	25	81	66	34	6	6	54
Cheju	ő	6	ő	3	6	9	33	54	33	91	61	33	15	12	40
•	Ü	Ü	. •		_										
Autumn					•	2	63	62	15	97	76	64	6	6	24
Kangnung	0	. 3	0	1	3	2 10 ·	49	48	48	90	67	49	12	9	30
Inch'on	0	3	0	2	3		49 46	64	5	94	75	47	6	7	40
Pusan	0	3	0	3	3 6	8	46 39	45	44	80	55	39	8	10	43
Mokp'o	0	6	0	6 · 8	8	27 20	29 22	37	46	79	35	22	$1\overline{4}$	16	48
Cheju	0	8	0	ð	8	20		. 57	-10	17	,,,				
NORTH KOR	EΑ														
Winter								1						_	
Songjin	0	6	0	6	6	10	68	64	11	91	76	68	6	7	19
Wonsan	0	2	0	2	2	3	79	81	6	96	97	79	0	0	21
Spring															
	0	3	0	3	3	4	61	53	28	97	77	62	6	9	23
Songjin Wonsan	0	3	0	2	3	10	41	56	27	91	76	43	6	17	34
	U	9	U	4	,	10		,,,		•					
Summer								/-	_	00	65	35	15	5	45
Songjin	0	5	0	5	5	13	35	65 70	5 0	90 84	63	37	11	5	47
Wonsan	0	0	. 0	0.	0	21	37	79	U	64	U)	21	11	,	-11
Autumn															
Songjin	0	2	0	. 2	2	5	73	56	24	96	80	73	4	8	15
Wonsan	0	3	0	3	3	8	65	68	17	94	82	65	6	6	23
		-													

^{*} Definitions of weather conditions designated by letters

Fog

Precipitation

Thunderstorm

Overcast with precipitation

Overcast with precipitation

Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky

Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.)

Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)

Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)

Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30%, and no obstructions to visibility.

No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

(4) RIDGE and HIGH type (TABLE V - 11).

This type is important to the extent that it occurs 13% to 20% of the time in spring, summer, and autumn, and 7% to 16% of the time in winter. There is considerably more cloudiness in this type of air flow in summer than in winter, except at Cheju where the reverse is true. The difference is most

marked along the northeast coast, where 65% to 78% of the observations report overcast or overcast with breaks in summer whereas only 17% to 18% of the morning and 27% to 36% of the evening observations in winter report such conditions. The greater cloudiness in the evening noted in the winter does not hold true in the summer. Precipitation ordinarily does not occur with this type of air flow.

TABLE V - 11
SUMMARY OF LOCAL WEATHER CONDITIONS ASSOCIATED WITH RIDGE AND HIGH FLOW IN THE FREE AIR
Percentage of Observations at which Certain Weather Conditions have been Recorded

	_	Pe	ercentage	e or Obs	ervations	at whic	h Certai	n Weath	er Condi	tions hav	ze been R				
	• A	В	С	D	Е	F	G	н	I	L	M		CLOUD CO		
	11	ь	C	D	E	Г			1	L	M	00-30	40-60	70-80	90-100
SOUTH KORI	7 A						0600	L.C.T.							
Winter	ıΛ														
	3	2	0	3	3	4	68	61	10	07	00	(0	0	,	26
Kangnung Inch'on	э 3	3 9	0	5 10	3 12	4 23		61 78	19	97 81	88	68 56	0	6 0	26
Pusan	0	0	0	0	0	25 0	53 66	78 66	3 12	100	73 91	56 66	0 6	0	44 28
Mokp'o	3	6	0	6	9	14	44	38	3	91	66	44	0	0	28 56
Cheju	0	18	0	18	18	15	30	76	<i>5</i>	91 82	33	30	0	6	64
Spring	Ü		U	10	10	1)	50	70	U	02	22	- 50	U	O	04
Kangnung	1	4	0	4	5	14	45	54		94	7/	46	-		44
Inch'on	2	4	0	4	6	27	45 39	66	8 2	94 87	75 71	45 39	7 5	4	44 51
Pusan	0	1	0	1	1	4	39 49	66 41	4	98	71 84	39 49	2	5 9	40
Mokp'o	1	6	0	6	7	22	38	37	2	98 88	74	49 39	5	0	56
Cheju	Ô	8	Ő	8	8	10	3 6 44	82	5	90	74 74	59 44	10	4	42
Summer	·	Ü	Ü	O	O	10	44	02	,	90	/4	44	10	4	42
Kangnung	7	5	0	4	12	19	22	20	-1	07	57	22	2	12	50
Inch'on	20	6	0	5	26	67	33 20	39 66	1 0	87 53	57 46	33 20	2 2	13	52 78
Pusan	0	2	0	2	20	20	20 32	37	0	25 89	46 64	32	4	0 6	78 58
Mokp'o	5	11	0	11	15	64	22 22	37 31	1	66	55	22 22	4	3	71
Cheju	1	9	0	9	10	16	39	69	4	83	68	40	8	12	40
Autumn	_		v	,	10	10	27	09	4	03	00	40	0	12	40
Kangnung	0	1	0	1	1	2	. /-	20	,	00	00	15	,		22
Inch'on	1	2	0	2	3	14	65 61	38 82	6 2	99 91	90 83	65 61	4 5	8	23 28
Pusan	Ô	0	0	0	0	2	53	50	2	91	80	53	7	7	28 33
Mokp'o	1	. 0	0	ő	1	4	50	47	0	99 98	83	49	7	5	39
Cheju	ō	5	0	5	5	14	42	89	6	86	51	43	6	10	39 41
, .	-		Ū			1-1	-12	0,9	U	80	71	49	.O	10	41
NORTH KOR	EA														
Winter															
Songjin	0	2	0	2	2	4	76	71	4	95	82	77	1	5	17
Wonsan	ŏ	8	0	8	8	12	77	51	2	90	85	77	3	5 2	18
Spring			ŭ	Ü	· ·	12	//)1	. 2	90	6)	//	5	2	10
Songjin	2	0	0	0	2	8	60	56	0	95	82	60		-	27
Wonsan	2	5	0	5	8	22	48	44	0	95 85	82 73	50 50	8 1	5 6	43
Summer	_		U	,	o	22	48	4141	U	8)	75)0	1	0	45
Songjin	6	10	0	10	16	20	26	27	•	0.4	40	25	,	_	
Wonsan	` 3	27	0	27	30	20 69	25	37 25	0 1	84 52	43	25	4	5	66
Autumn	,	41	U	41	50	09	15	23	1	32	40	15	1	6	78
Songjin	0	1	0	-	2		(0						_	_	
Wonsan	0	4	0	1	2 4	0	62	68	1	98	80	66 57	8	7	19
w Onsail	U	4	U	5	4	11	57	57	1	90	71	57	1	6	36

^{*} Definitions of weather conditions designated by letters

E Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

A Fog

B Precipitation

C Thunderstorm

D Overcast with precipitation

F Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky

G Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.)

Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)
 Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)

L Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30 %, and no obstructions to visibility.

M No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60 %. (Favorable for low- and medium-level bombing.)

TABLE V-11 Continued															
		_	_	_		F	G			L	3.6	00-30	CLOUD CC 40-60	ver (% 70-80	90-100
	Α.	В	С	D	E	r	-	Н	I	L	M	00-30	40-60	/0-80	90-100
COLUMN TOD	- 4						1800	L.C.T.							-
SOUTH KOR	EA						•								'
Winter															
Kangnung		3	0	3	3	0	56	53	12	97	91	57	9	6	.28
Inch'on	0	3	0	3	6	25	41	75	3	88	76	44	12	6	38
Pusan	0	0	0	0	0	10	50	66	0	94	81	50	. 6	3	41
Mokp'o	0	3	0	3	3	9	44	72	9	97	81	44	3	3	50
Cheju	0	6	0	6	6	12	27	58	6	88	39	.27	3	6	64
Spring															
Kangnung	0	2	0	2	2	6	41	62	4	96	73	41	6	4	49
Inch'on	1	0	0	0	· 1	5	54	82	14	98	94	55	6	0	39
Pusan	0	0	0	0	0	9	31	83	7	95	70	31	9	4	56
Mokp'o	1	2	0	2	6	17	35	65	22	92	79	39	2	5	54
Cheju	0	2	0	2	2	5	44	69	20	95	81	45	8	6	41
Summer															
Kangnung	0	4	0	4	4	12	25	34	3	94	69	24	3	10	63
Inch'on	0	1	0	1	1	20	32	92	0	92	81	32	12	4	52
Pusan	0	4	0	4	4	12	31	82	3	93	67	31	7	7	55
Mokp'o	0	4	0	4	4	32	34	89	0	82	60	34	8	3	55
Cheju	0	10	0	8	10	12	34	62	22	86	55	-35	11	8	46
Autumn			v												
Kangnung	0	2	0	2	2	4	49	28	1	98	75	49	5	4	42
Inch'on	0	4	Ö	4	4	7	47	81	2	96	85	47	10	10	33
Pusan	0	5	Ö	5	5	8	47	61	1	94	78	47	5	6	42
Mokp'o	0	8	0	8	8	23	51	63	14	96	77	51	2	1	46
Cheju	0	6	0	6	6	13	42	59	11	87	59	42	9	9	40
NORTH KOR	EA														
Winter								_							
Songjin	0	10	. 0	10	10	12	68	68	2	89	76	68	2	3	27
Wonsan	0	13	. 0	13	13	25	47	46	3	86	81	47	14	3	36
Spring															
Songjin	5	0	0	0	5	6	56	- 55	25	95	68	52	7	7	34
Wonsan	0	10	0	10	10	21	54	- 68	5	85	78	54	7	5	34
Summer															
Songjin	3	3	0	3	5	27	19	. 35	11	84	54	19	5	11	65
Wonsan	Õ	8	0	8	8	65	24	76	0	66	60	24	3	8	65
Autumn															
Songjin	0	0	0	0	0	0	56	62	3	100	80	56	10	11	23
Wonsan	0	3	Ŏ	3	3	13	64	64	ō	88	73	63	2	2	33

^{*} Definitions of weather conditions designated by letters

A B Fog

Precipitation

Thunderstorm

D Overcast with precipitation

Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky

Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.) Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)

Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.) Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30%, and no obstructions to visibility.

M No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

(5) Southwesterly type of air flow (TABLE V - 12).

The southwesterly type of air flow is the most important one in the summer season, occurring 25% to 45% of all observations. It is also quite important in northern Korea in the spring and autumn seasons. Except at Cheju, this type of air flow is attended in summer by a considerable percentage of overcast

or overcast with breaks, averaging 63% to 82% of all observations. Local conditions at Inch'on give a considerable number of observations with scattered clouds in the morning observations. Cheju, located on the lee side of the island with respect to southwesterly air flow, records a nearly equal number of overcast and clear skies.

TABLE V - 12
SUMMARY OF LOCAL WEATHER CONDITIONS ASSOCIATED WITH SOUTHWESTERLY FLOW IN THE FREE AIR
Percentage of Observations at which Certain Weather Conditions have been Recorded

	Percentage of Observations at which Certain Weather Conditions have been Recorded * Cloud Cover (%)														
	A.	В	C	D	Е	F	G	Н	I	L	М	00-30	CLOUD CO 40-60	VER (% 70-80	
	Λ	ь	C	D		г			1	L	M	00-30	40-60	/0-80	90-100
COLUMNIA					:		0600	L.C.T.							
SOUTH KORE	lA.														
Winter															
Kangnung	0	0	0	0	0	0	38	38	38	100	78	38	0	3.7	25
Inch'on	0	12	0	12	12	33	38	38	38	75	62	38	0	0	62
Pusan	0	0	0	0	0	0	62	50	.0	100	88	63	12	0	25
Mokp'o	0	12	0	12	12	17	38	62	0	88	62	38	12	0	50
Cheju	0	12	0	12	12	12	25	75	12	88	25	25	0	0	75
Spring															
Kangnung	2	4	0	4	6	15	26	57	13	92	71	26	8	4	62
Inch'on	. 2	8	0	8	11	31	32	70	17	83	68	32	2	4	62
Pusan	0	4	0	4	4	19	39	41	2	89	73	39	4	4	53
Mokp'o	0	. 8	0	8	8	22	32	60	2	89	68	32	2	4	62
Cheju	0	.8	0	8	11	13	38	74	11	85	70	38	9	11	42
Summer															
Kangnung	11	13	0	13	24	31	19	33	3	76	35	19	4	6	71
Inch on	9	28	0	28	37	70	3	52	8	39	16	25	25	42	8
Pusan	2	15	0	15	17	57	21	40	4	53	42	22	8	2	68
Mokp'o	3	15	0	15	18	69	12	43	10	49	34	12	4	2	82
Cheju	4	9	0	8	12	20	35	56	5	79	60	35	7	8	50
Autumn															
Kangnung	0	0	0	0	0	0	29	67	4	100	54	29	0	13	58
Inch'on	0	17	8	17	17	44	25	62	21	71	58	25	13	12	50
Pusan	0	8	0	8	8	20	29	29	4	88	71	29	13	4	54
Mokp'o	0	8	0	8	8	29	29	29	8	83	67	29	4	0	67
Cheju	0	25	0	25	25	21	33	67	8	75	42	33	0	0	67
•															
NORTH KOR	EΑ														
Winter															
Songjin	0	0	0	0	0	0	50	64	14	100	71	50	7	0	43
Wonsan	0	7	0	7	7	14	50	64	7	93	71	50	Ó	Ö	50
Spring															
Songjin	13	5	. 0	5	18	36	25	38	0	78	54	25	7	2	66
Wonsan	2	9	0	9	12	45	28	42	3	75	56	28	2	4	66
Summer				,									_	_	
Songjin	15	12	0	12	28	53	13	23	0	61	37	28	11	12	49
Wonsan	1	25	0	25	26	59	13	26	0	55	38	28	16	10	46
Autumn	-		•	/		"	1.7	~-0	v	,,	,0	20	10	10	10
Songjin	1	1	0	1	3	5	64	42	0	96	75	65	8	0	27
Wonsan	Ô	1	0	1	1	10	49	67	0	93	73 71	49	8	3	40
vv Olisali	U	1	v	т	1	10	47	0,	U	2)	/ 1	47	O	9	40

^{*} Definitions of weather conditions designated by letters

A Fog

B Precipitation

C Thunderstorm

D Overcast with precipitation

E Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

F Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky

G Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.)

H Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)

I Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)

L Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30%, and no obstructions to visibility.

M No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

			,			TABLE V - 12 Continued									
	* A	В	c	D	E	F.	G 1800	H L.C.T.	I	L	М.	00-30	CLOUD CO 40-60	70-80	
SOUTH KORE.	A						1000	L.C.1.							
Winter															
Kangnung Inch'on Pusan Mokp'o	0 0 0 0	0 50 0 17	0 0 0 0	0 50 0 17	0 50 0 17	0 33 0 25	50 17 50 50	67 33 67 83	17 17 0 0	100 50 100 83	67 17 100 83	50 17 50 50	0 0 0	0 0 0 17	50 83 50 33
Cheju	0	0	0	0	0	0	50	67	17	100	.50	50	0	0	50
Spring															
Kangnung Inch'on Pusan Mokp'o Cheju	0 0 0 0	0 12 5 10 8	0 0 0 0	0 12 5 10 8	0 12 5 10 8	9 30 19 36 10	21 24 37 37 51	57 58 78 58 51	24 22 7 27 31	98 80 88 78 90	83 63 68 66 69	21 24 37 37 51	0 5 2 5 3	0 5 2 5 3	79 66 59 53 43
Summer								1							
Kangnung Inch'on Pusan Mokp'o Cheju	1 .2 0 0	18 13 8 10 5	0 0 0 0	18 13 8 9 5	19 15 8 10 6	29 53 51 41 17	23 24 26 25 30	34 69 80 70 63	1 16 2 11 18	77 64 64 72 82	43 52 50 49 52	23 24 26 25 30	. 4 7 3 7 11	7 6 6 3 16	66 63 65 65 43
Autumn								-							
Kangnung Inch'on Pusan Mokp'o Cheju	0 0 0 0	7 7 3 3 7	0 3 0 0	7 7 3 3 7	7 7 3 3 7	12 47 19 21 7	40 30 33 43 23	40 43 43 80 63	0 43 3 3 13	93 70 90 90 93	80 62 73 77 53	40 30 33 43 23	3 7 7 0 10	13 7 10 0 23	44 56 50 57 44
NORTH KORI	EΑ							1							
Winter															
Songjin Wonsan	0	17 13	0 0	13 13	17 13	20 24	30 48	56 44	13	83 83	39 65	30 48	13 0	9 4	48 48
S <i>pring</i> Songjin Wonsan	4 4	5 4	0 0	5 4	9 8	24 33	26 30	41 60	32 10	86 81	60 68	26 30	6	8	60 63
Summer Songjin Wonsan	8	10 18	0	10 18	18 18	36 56	14 15	5 13	9 1	74 60	42 44	24 27	12 16	15 9	49 48
Autumn Songjin Wonsan	1 0	2 6	0	2 6	3 6	11 18	52 53	51 63	16 1	92 88	76 78	52 53	10	3 5	35 39

^{*} Definitions of weather conditions designated by letters

A Fog

B Precipitation

C Thunderstorm

D Overcast with precipitation

E Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

F Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky

G Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.)

H Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)
 I Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)

Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30%, and no obstructions to visibility.
 Mo precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

(6) Southeasterly type of air flow (TABLE V - 13).

This type of air flow is important only in southern Korea in the summer. It is attended by a very high percentage of overcast conditions, totalling 73% to 81% of the morning and

63% to 76% of the evening observations. Precipitation with this type is most frequent at Cheju and least frequent at Inch'on. The lack of precipitation at the latter place may be caused in part by a lack of major topographic barriers in the region.

TABLE V - 13
SUMMARY OF LOCAL WEATHER CONDITIONS ASSOCIATED WITH SOUTHEASTERLY FLOW IN THE FREE AIR
Percentage of Observations at which Certain Weather Conditions have been Recorded

	_		refeema	ige of Oi	servatio	ns at wn	ich Certa	un Weati	ier Cond	litions h	ave been l	Recorded			
	* A	В	С	ъ.	-	_	_						CLOUD CO	VER (%	5)
	л	Б	C	D	E	F	G	Н	I	L	M	00-30	40-60	70-80	90-100
SOUTH KOR	EΑ						0600	L.C.T.							
Winter															
Kangnung	0	35	0	35	35	35	17	39	0	65	1 -7	17	,	0	70
Inch'on	4	29	ő	29	33	56	33	62	8	65 58	17 44	17 33	4 0	0 4	79 63
Pusan	0	39	0	39	39	55	30	17	17	52	30	30	0	. 0	70
Mokp'o	9	35	0	35	44	67	22	48	0	48	38	22	0	0	70 78
Cheju	0	42	0	42	42	50	21	42	8	50	21	21	0	0	78 79
Spring						•			Ü	,,	~1	21	V	U	19
Kangnung	0	21	0	19	21	30	9	27	0	79	46	9	9	3	79
Inch'on	0	18	0	18	18	43	15	70	3	73	48	15	9	3	73
Pusan	0	27	0	27	27	50	15	46	6	67	48	15	3	3	79
Mokp'o	3	27	0	27	30	72	12	46	3	61	52	12	3	ó	85
Cheju	0	44	0	44	44	50	9	37	9	50	34	9	6	3	82
Summer														,	02
Kangnung	7	19	0	19	26	30	12	14	0	72	24	13	3	3	81
Inch'on	7	10	0	10	17	39	20	67	7	77	55	20	4	3	73
Pusan	1	13	0	13	14	46	14	45	6	62	28	15	0	4	81
Mokp'o	3	22	0	22	25	62	16	40	2	65	45	16	2	2	80
Cheju	1	33	0	33	35	56	13	40	16	43	26	13	4	6	77
Autumn															
Kangnung	0	18	0	18	18	20	30	41	0	82	33	30	4	4	62
Inch'on	0	15	0	15	15	33	33	78	4	78	59	33	4	7	56
Pusan	0	22	0	22	22	41	4	48	7	67	30	4	7	11	78
Mokp'o	0	26	0	26	26	69	15	48	Ó	59	56	15	4	0	81
Cheju	0	26	0	26	26	56	4	67	4	44	18	4	4	4	88
										•					
NORTH KORE	Α														
Winter															
Songjin	0	43	0	43	43 .	46	14	43	0	57	14	14	0	0	86
Wonsan	7 .	36	0	36	43	75	0	7	7	36	14	0	0	0	100
Spring										-			Ü	Ü	100
Songjin	0	27	0	18	27	30	18	27	0	73	27	18	0	0	82
Wonsan	0	54	0	54	54	73	18	18	ő ·	27	18	18	0	0	82
Summer										-,	20	10	v	Ü	02
Songjin	0	27	0	27	27	56	27	27	9	54	36	27	0	0:	72
Wonsan	9	46	0	46	54	70	9	18	9	36	20	9	0	0:	73 91
Autumn							-			50	20	,	v	U	УI
Songjin	0	14	0	14	14	20	^	71	1	0.6	•	_	,		
Wonsan	0	43	0	27	43	60	0	71	0	86	29	0	0	0	100
	•	1.)	U	41	49	60	U	29	0	. 57	29	0	0	0	100

^{*} Definitions of weather conditions designated by letters

E Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

G Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.)

H Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)

A Fog

B Precipitation

C Thunderstorm

D Overcast with precipitation

F Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky

I Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)

L Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30%, and no obstructions to visibility.
 M No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

						Таві	.е V - 13	Continue	d						
	•					_	_			L	М	00-30	LOUD COV 40-60	ver (% 70-80	
	A	В	C	D	E	F	G	H	I	L	M	00-50	40-00	70.00	,0 200
							1800	L.C.T.							
SOUTH KORE.	A														
Winter										=0	0.2	12	0	0	87
Kangnung	0	30	0	30	30	35	13	27	0	70 63	23 53	13 10	0 7	3	80
Inch'on	7	23	0	23	30	65	10	67 37	7 7	60	30	10	3	7	80
Pusan	0	27	0	23 ·	27	52 65	10 17	57	3	63	43	17	3	Ó	80
Mokp'o	0	23	0	23 28	23 34	52	7	48	17	48	21	7	ő	0	93
Cheju	3	31	0	28	24	.)2	,	40	.,	. 10		•			
Spring								40	2	72	39	14	7	0	79
Kangnung	0	24	0	24	24	33	14	48 63	3 10	72 77	59 52	23	3	7	67
Inch'on	0	17	0	17	17	32	23 17	60	7	60	38	17	ó	7	76
Pusan	0	27	0	27	27 33	50 56	13	53	13	63	47	13	Ö	7	80
Mokp'o	0	30	0 0	30 30	37	47	20	27	40	53	37	20	0	3	77
Cheju	7	30	U	50	31	-17	20	12,			•				
Summer						•		25	0	78	35	11	6	. 7	76
Kangnung	0	-21	0	21	21	29	11	25 81	0 6	78 89	68	15	11	ó	74
Inch'on	0	8	0	8	8 12	24 37	15 19	76	0	78	54	19	8	7	66
Pusan	0	12	0 0	12 12	12	51	21	72	7	71	58	21	7	4	68
Mokp'o	0	12 21	0	21	21	36	21	39	30	64	46	21	-8	8	63
Cheju	U	21	U	21	21	,0		,,,	<i>y</i> -						
Autumn					1.5	1 =7	30	33	0	85	41	30	4	0	66
Kangnung	0	15	0	15	15 7	17 31	30 33	· 33	0	85	67	33	4	Ö	63
Inch'on	0	7 11	0	7 11	11	22	15	67	4	85	44	15	. 4	7	74
Pusan	0	.22	0	22	22	61	22	59	4	59	44	22	0	7	71
Mokp'o Cheju	0	22	0	22	22	52	0	26	41	48	26	0	15	7	78
Cheju	U	24	U	22		, <u>-</u>									
NORTH KOR	EA														
Winter															
Songjin	0	33	0	33	33	33	0	11	22	67	0	. 0	0	0	100
Wonsan	Ö	44	0	33	44	62	0	22	0	44	11	0	0	11	89
Spring															
	0	50	0	50	50	50	0	: 17	33	' 50	33	0	0	0	100
Songjin Wonsan	0	50	ő	50	50	100	Õ	17	0	17	17	0	0	0	100
	v	,,,	~	, -											
Summer	^	10	^	10	10	12	20	70	0	90	30	20	0	0	80
Songjin	0	10 30	0 0	10 30	30	12 29	10	60	0	70	40	10	٥٠	Ō	90
Wonsan	U	5 U	· U	.50	90	47			J	, -					
Autumn			_		/0	42	1.6	29	29	57	14	14	0	0	86
Songjin	0	43	0	43	43	43	14	29 29	29 0	43	29	14	14	Ö	72
Wonsan	0	43	0	43	43	67	14	29	U	40	49	1-1	T -X	J	,

^{*} Definitions of weather conditions designated by letters

Fog Precipitation

Thunderstorm Overcast with precipitation

Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky

Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.)
Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)
Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)
Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30%, and no obstructions to visibility.

No precipitation no obstruction to visibility low clouds not present in excess of 30%, and no obstructions to visibility.

M No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low and medium-level bombing.)

(7) TROUGH and LOW type (TABLE V - 14).

This type is of some importance in northern Korea in spring and summer, occurring 12% of the time. The percentage of

cloudiness is high in those seasons, particularly in the spring. Many of the troughs included in this tabulation occurred over southeastern Manchuria, since the latter section is included in the region for which the types were listed.

TABLE V - 14 SUMMARY OF LOCAL WEATHER CONDITIONS ASSOCIATED WITH TROUGHS AND CENTERS OF LOW PRESSURE AND TYPHOONS

			Percentag	e of Obs	servations	s at whic	h Certai	n Weath	er Condi	tions hav	ve been R	.ecorded			
	•												LOUD CO		
	A	В	С	D	E	F	G	H	I	L	M	00-30	40-60	70-80	90-100
							0600	L.C.T.							
SOUTH KORE	Α														
Winter															
Kangnung	0	17	0	8	17	20	25	42	17	83	42	25	0	17	58
Inch'on	17	42	0	42	58	83	8	50	8	17	8	8	0	0	92
Pusan	0	8	0	8	8	33	33	42	8	75	58	33	8	0	59
Mokp'o	25	33	0	33	58	73	17	50	0	33	17	17	0	0	83
Cheju	0	33	0	33	33	42	8	50	17	58	17	8	0	8	84
Spring															
Kangnung	6	50	0	50	56	67	11	17	6	44	28	11	0	11	78
Inch'on	17	44	0	44	61	76	11	33	22	28	17	11	6	0	83
Pusan	0.	28	0	28	28	57	0	42	17	50	18	0	0	11	89
Mokp'o	0	33	0	33	33	93	0	44	0	28	24	0	6	0	94
Cheju	0	39	Ó	39	39	67	11	17	28	33	17	11	0	17	72
Summer															
Kangnung	7	17	0	17	24	28	10	28	3	76	24	10	3	0	87
Inch'on	10	10	0	11	21	48	11	48	3	64	28	10	0	0	90
Pusan	3	34	0	34	38	71	0	28	0	41	17	0	4	10	86
Mokp'o	17	17	Õ	17	34	83	10	34	3	48	41	10	3	7	80
Cheju	0	24	0	24	24	52	17	38	21	48	34	17	7	0	76
Autumn															
Kangnung	0	14	0	14	14	11	14	48	5	86	33	14	5	19	62
Inch'on	ő	38	0	33	38	77	5	48	5	48	38	5	5	10	80
Pusan	ő	19	ő	19	19	36	33	24	0	76	62	33	0	10	57
Mokp'o	Ö	24	ő	24	24	58	5	29	5	62	45	5	0	5	90
Cheju	0	10	ő	10	10	25	15	60	15	75	50	15	15	5	65
Cheju	·	10	·			-,									
NORTH KOR	EA														
Winter															
Songjin	0	6	0	6	6	8	31	62	12	94	56	31	13	6	50
Wonsan	0	38	0	38	38	46	19	12	12	62	38	19	6	12	63
Spring															
Sonjin	0	15	0	15	15	41	12	46	3	73	46	12	6	0	82
Wonsan	0	27	0	27	27	46	15	39	3	61	33	15	9 -	0	76
Summer															
	8	33	0	33	42	59	8	33	6	50	31	8	11	3	78
Songjin Wonsan	0	25	0	25	25	52	25	28	0	61	42	25	0	0	75
	U	ر ع	U	4)	2)	12	2)	20	v	01		/	Ū	v	17
Autumn			_						4.0	-	40		_		
Songjin	0	29	0	29	29	33	33	43	10	67	38	33	5	5	57
Wonsan	0	24	0	24	24	42	24	29	5	62	33	24	5	9	62

^{*} Definitions of weather conditions designated by letters

Α Fog

Precipitation В

Thunderstorm

Overcast with precipitation

Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky Cloudiness 30% or less, with no obstruction to visibility. (Favo:able for high-level bombing.)

Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.) Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)

Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30%, and no obstructions to visibility.

No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

						TAB	LE V - 14	Continu	ed						
	*	-	-	D	E	F	G	н	I	L	М	00-30	CLOUD CO 40-60	70-80) 90-100
	A	В	С	Ъ	E	г		L.C.T.	1	1.	IVI	00-50	40-00	, ,0-00	JO-100
SOUTH KORE	Δ						1800	L.C.I.							
	11														
Winter		40	0	50	40	56	10	40	0	60	20	9	0	9	82
Kangnung Inch'on	0	50	0	50	50	67	0	40	10	40	10	ó	Ö	10	90
Pusan	0	30 .	0	30	30	56	10	50	12	50	20	10	0	0	90
Mokp'o	0	50	ő	50	50	56	0	30	0	50	10	. 0	0	0	100
Cheju	0	30	0	30	30	50	10	40	30	50	20	10	10	10	70
	Ŭ	50		-	•	-									
Spring		22	0	22	22	28	19	. 150	9	78	41	19	3	0	78
Kangnung	0 6	28	. 0	.28	34	73	16	47	25	47	45	16	ő	Ö	84
Inch'on	0	26 25	0	25	25	50	19	59	12	59	38	19	9	6	66
Pusan	3	28	0	28	31	64	16	53	19	56	45	16	3	6	75
Mokp'o Cheju	0	24	0	24	24	30	24	33	33	70	42	24	6	3	67
*	U	24	. 0	24	2-1	70		33	33	, •		· · ·			
Summer		21	0	24	24	28	19	26	0	74	42	19	4	7	70
Kangnung	0	24	0	24	2 4 11	44	42	77	9	77	72	42	9	6	43
Inch'on	0	11	0	11		50	23	60	2	60	38	22	2	6	70
Pusan	0	23	0	23	24	50 57	36	: 68	13	68	50	36	0	6	58
Mokp'o	0	13	0	13	13 11	24	24	51	34	75	49	24	13	9	54
Cheju	2	9	0	9	11	24	24	1)1	. 54	1)	49	24	15	,	74
Autumn															
Kangnung	0	15	0	15	15	18	20	25	0	85	35	20	5	10	65
Inch'on	0	25	0	25	25	40	20	55	. 10	60	45	. 20	10	15	55
Pusan	0	5	0	5	5	36	30	65	10	80	65	30	5	25	40
Mokp'o	0	20	0	20	20	54	25	50	10	65	50	25	0	5 10	70 65
Cheju	0	30	0	20	30	25	20	50	5	74	35	20	5	10	65
NORTH KORI	EΑ														
Winter								•							
Songjin	0	15	0	8	15	27	31	46	8	77	54	31	0	0	69
Wonsan	0	54	0	46	54	67	8	23	0	46	31	. 8	8	· 7	77
*	v	74	, 0	10		0,	ŭ	1			-	_	_		
Spring						26	26	10	26	00		26	-,	_	(0
Songjin	4	11	0	10	15	26	26	42	26	82	55 63	26	7 5	7 11	60 59
Wonsan	0	11	0	. 11	11	32	25	52	13	83	05	25)	11	29
Summer													:		
Songjin	1	19	0	10	21	36	11	43	12	71	28	11	- 6	6	77
Wonsan	0	19	0	19	19	52	16	56	13	62	43	16	7	9	68
Autumn															
Songjin	0	22	0	22	22	32	37	42	.25	73	51	37	. 2	7	54
Wonsan	Õ	22	Ö	20	20	28	39	49	2	78	62	39	2	12	47
*** ***********************************	•		-					100							

^{*} Definitions of weather conditions designated by letters

Fog

Precipitation

Thunderstorm \mathbf{D} Overcast with precipitation

Any obstruction to visibility (dust, haze, blowing snow, precipitation, etc.)

Stratus, nimbus, nimbostratus, or cumulonimbus cloud covering 40% or more of the sky
Cloudiness 30% or less, with no obstruction to visibility. (Favorable for high-level bombing.)
Winds 3 to 12 m.p.h. (Beaufort force 2 and 3), with no precipitation. (Favorable for chemical warfare.)
Winds of 13 m.p.h. or stronger (Beaufort force 4 or stronger), with no precipitation. (Favorable for incendiary bombing.)

Stratus, nimbus, nimbostratus, or cumulonimbus clouds not present in excess of 30%, and no obstructions to visibility. No precipitation, no obstruction to visibility; low clouds not predominant, or, if predominant, total cloudiness less than 60%. (Favorable for low- and medium-level bombing.)

B. Forecast problems.

In the absence of available published material on forecasting in Korea, it is possible only to mention some of the problems which may be encountered in this region. Probably the greatest difficulty that the forecaster may encounter is what may be termed a "change in pace" in the weather situations in the Far East. Settled conditions may persist for days, even weeks at a time, only to change suddenly and become unsettled in less than 24 hours after the first indications of change are noted.

In midwinter the principal problems of forecasting are connected with the rate and direction of movement of anticyclones. In the autumn and early winter, there is a tendency for the anticyclones to move southward into China, maintaining a west - east pressure gradient across Korea with steady northeast to north winds in the mountainous regions of northern Korea and north to northwest winds over peninsular Korea. These northerly winds are attended by cloudy weather and occasional light rains along the southwest coast and over the larger islands. In late winter and spring, there is a tendency for the anticyclones to move eastward across Korea and the Sea of Japan, resulting in periodic occurrences of fine weather with light winds or calms over Korea.

In the spring and summer, one of the principal problems of forecasting is the development of wave disturbances along the polar front in the vicinity of the Huang Ho, the Ch'ang Chiang or in South China. If the polar front becomes quasi-stationary along the Huang Ho, the disturbances are most likely to cross Korea and cause adverse weather over the whole peninsula. These disturbances begin as shallow waves along the front, developing very rapidly over the Huang Hai and often attaining full storm intensity in less than 24 hours. At other times, the major development of the storm does not take place until after the wave has crossed the Korean mountains and very rapid intensification of the storm occurs along the east coast of Korea over the Sea of Japan. These latter disturbances are the cause of very adverse weather along the east coast. Kobayashi has described the regeneration of a storm along the east coast in considerable detail in the Quarterly Journal of the Royal Meteorological Society of 1922. Wave disturbances which develop over the Ch'ang Chiang Valley or in central China are most likely to pass south of Japan, affecting only the extreme south of Korea. As in the case of the Huang Ho waves, they develop very rapidly upon reaching the coast, often attaining full storm intensity in less than 24 hours. Wave disturbances which develop along the south China coast rarely affect any part of Korea, the storms ordinarily passing well to the east of the Japanese archipelago.

In summer the major forecasting problems result from the presence or absence of the polar and equatorial fronts over Korea. These fronts, particularly the northward extension of the equatorial front, are often very diffuse, appearing on the synoptic charts only as zones of convergence, and without the slightest indication of the development of cyclonic disturbances.

In spite of the diffuse character of the fronts, they are often attended by heavy and widespread rains over the peninsula of Korea, accounting for the bulk of the extremely heavy summer precipitation in that region. The presence of a homogeneous air mass over Korea may be taken as indicative of persistent fair weather.

Another forecasting problem in Korea which is not associated with the passage of disturbances or with convergence is the occurrence of fog and low stratus clouds along the coasts and over the adjacent seas. The condition occurs when warm, moist air masses of equatorial or subtropical origin move slowly northward across cooler water surfaces. For accurate forecasting of this phenomenon, it is necessary to know not only the characteristics of the overlying air mass but also the temperature of the sea surface water. Connected with the occurrence of fog and low stratus clouds is the secondary problem of penetration of the interior. Sea fog ordinarily does not penetrate far inland, convectional turbulence causing a lifting of the fog and often dissipating it before any extensive penetration of the interior takes place. Stratus clouds are similarly affected, the ceilings over the interior (when penetration does take place) are higher than on the coast, but more often the stratus clouds are dissipated before moving any great distance inland. Penetration is more extensive at night than in the daytime.

The forecasting of typhoons is a special problem, somewhat simpler in Korea than in other regions affected by severe tropical disturbances. In Korea the occurrence of typhoons is limited to the period from June 1 to September 15. They always appear as fully-developed disturbances with a history of several days and have crossed regions from which synoptic reports are available. The most frequently followed track begins in the vicinity of the southern Marianas Islands, extends west-northwestward to the vicinity of the East China Sea or the Huang Hai and recurves northeastward across Korea. The position of the region of recurvature is dependent upon the relative strength and position of the westernmost cell of the Pacific anticyclone.

C. Examples of synoptic weather charts.

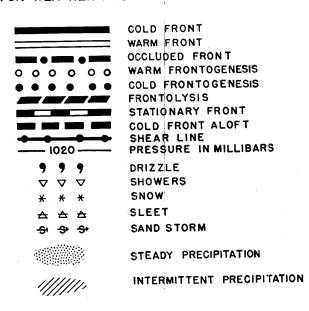
The following section presents examples of synoptic weather charts, which have been chosen to illustrate various types of weather which occur in different seasons of the year. These maps have been selected from the published series of Northern Hemisphere charts, with the exception of the 2 series of Ch'ang Chiang (Yangtze) and Huang Ho waves which have been adapted from the synoptic section of Weather and Climate of China, Report No. 890, Weather Division, Headquarters AAF. The time shown on the series from the Northern Hemisphere charts corresponds to the local time at which observations were taken in Japan and Korea-2200 L.S.T., 135th E. long.; the time shown on the 2 series from Weather and Climate of China corresponds to the local time at which observations were taken in China-0600 and 1400 L.S.T., 120th E. long. Pressure data for the 10,000-foot level are only approximate and have been dotted to indicate that fact.

(1) Synoptic series—24 November to 27 November 1934.

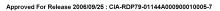
This series of maps (FIGURE V - 19) illustrates the passage of a cold front eastward across Korea, the development of a disturbance in the East China Sea which moves northeastward across the Japanese archipelago with rapidly increasing intensity, and the final establishment of high pressure over East Asia, including the Korean peninsula. This sequence was com-

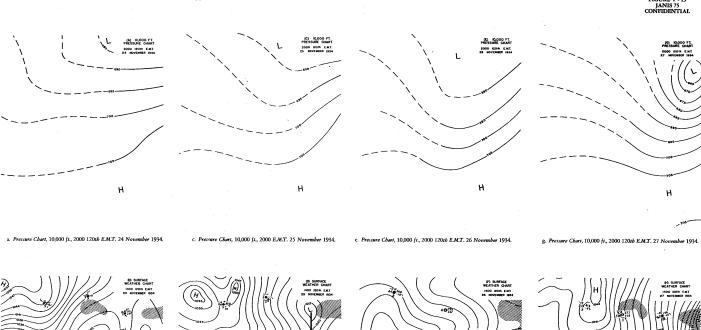
pleted, as far as Korea was concerned, in 72 hours. The map for 27 November is typical of the northeast monsoon which persists a large percentage of the time in the late fall, winter, and early spring in Korea. The weather is mostly clear over interior sections, but overcast conditions with ceilings 2,500 to 4,000 feet prevail along the southwest coast from the vicinity of Inch'on to the vicinity of Sunch'on and also over the more mountainous islands. The prevailing air flow is northeast to northwest.

LEGEND FOR WEATHER AND PRESSURE CHARTS



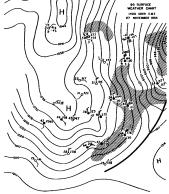
CH TT CM PPP Vww ®± PPa TsTs CL Nh WR h RR





b. Surface Weather Chart, 2200 135th E.M.T. 24 November 1934.

d. Surface Weather Chart, 2200 135th E.M.T. 25 November 1934.



h. Surface Weather Chart, 2200 135th E.M.T. 27 November 1934.

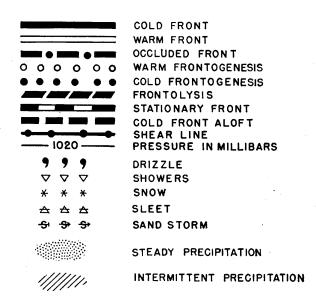
FIGURE V - 19 JANIS 75 CONFIDENTIAL

(2) Synoptic series—15 March to 17 March 1937.

Under certain conditions, the polar front may become quasistationary over the Huang Ho valley, with a succession of waves moving eastward across the Huang Hai, Korea, and the Sea of Japan (FIGURE V - 20). Several of these disturbances are shown in this synoptic series, and each disturbance is the cause of adverse weather over Korea; brief intervals of improved weather intersperse the disturbances. As in the case of the better-known Ch'ang Chiang (Yangtze) wave disturbances, most of the adverse weather occurs on the northern sides of the quasi-stationary front. The last day of the series shows high pressure moving southward into Korea from Siberia and Manchuria, attended by a general clearing of the weather.

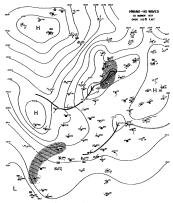
LEGEND

FOR WEATHER AND PRESSURE CHARTS

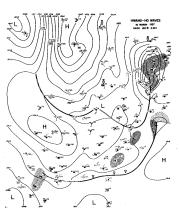


CH TT CM PPP Vww (0) ± PPa T_sT_s C_L N_h WR₁ h RR

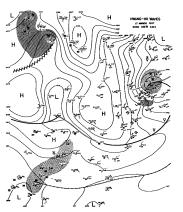
Approved For Release 2006/09/25 : CIA-RDP79-01144A000900010005-7



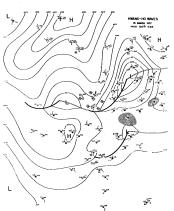
a. Surface Weather Chart, 0600 120th E.M.T. 15 March 1937.



c. Surface Weather Chart, 0600 120th E.M.T. 16 March 1937.



e. Surface Weather Chart, 0600 120th E.M.T. 17 March 1937.



b. Surface Weather Chart, 1400 120th E.M.T. 15 March 1937.



d. Surface Weather Chart, 1400 120th E.M.T. 16 March 1937.

FIGURE V - 20. Synoptic Series, 15 March to 17 March 1937.

Approved For Release 2006/09/25 : CIA-RDP79-01144A000900010005-7

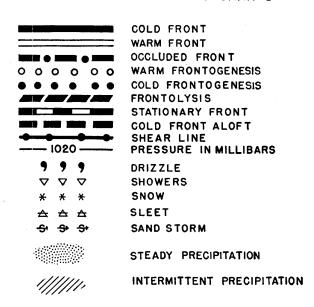
FIGURE V - 20 JANIS 75 CONFIDENTIAL

(3) Synoptic series—20 February to 22 February 1937.

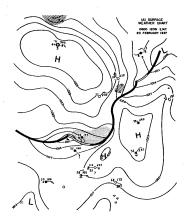
Since the principal approaches to Korea are from the south, it is desirable to examine a series of maps (FIGURE V-21) where adverse weather is rather generally encountered across those approaches. This condition occurs whenever a series of Ch'ang Chiang (Yangtze) waves are formed along a quasistationary front extending from the Pacific westward across the Ch'ang Chiang valley. On the 19th of February, a cold front in advance of a strong anticyclone moved into central China and became quasi-stationary along the Ch'ang Chiang valley.

Successive wave disturbances formed on this front and moved eastward skirting the southern coast of Japan. This is characteristic of this type of disturbance, and extensive low cloud cover with widespread light rain exists to the north of the front while very little adverse weather occurs south of the front. In the maps shown there is considerable cloudiness and light rain over north-central China, the Huang Hai, southern Japan, and intermittently over southern Korea. Thus the whole region of approaches from the south is blanketed by conditions which are unfavorable, in many respects, to aviation activity in the region.

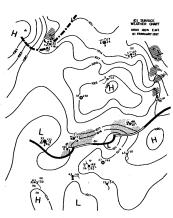
LEGEND FOR WEATHER AND PRESSURE CHARTS



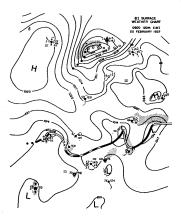
CH TT CM PPP Vww (1) ± PPa T_sT_s C_L N_h WR₁ h RR



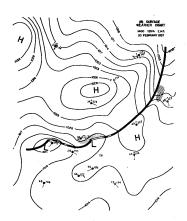
a. Surface Weather Chart, 0600 120th E.M.T. 20 February 1937.



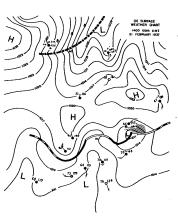
c. Surface Weather Chart, 0600 120th E.M.T. 21 February 1937.



e. Surface Weather Chart, 0600 120th E.M.T. 22 February 1937.



b. Surface Weather Chart, 1400 120th E.M.T. 20 February 1937.



d. Surface Weather Chart, 1400 120th E.M.T. 21 February 1937.

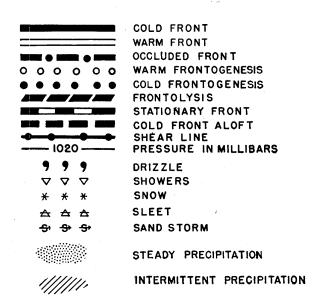
FIGURE V - 21 JANIS 75 CONFIDENTIAL

(4) Synoptic series—14 and 15 April 1933.

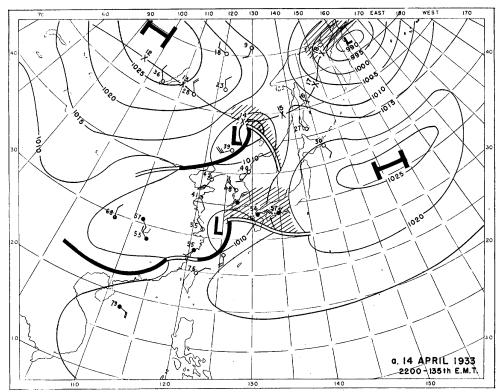
The 2 maps in this series (FIGURE V - 22) were selected to illustrate conditions with widespread restrictions to visibility caused by dust aloft. In the maps preceding this series, high pressure prevailed over northeast China, Korea, Japan, and the adjacent seas; southerly winds attended by warmer weather overspread the deserts of northern China and Mongolia; and a disturbance of the "Baykal" type began its course across southern Siberia. On the 14th the disturbance was centered near Birobidzhan with a cold front trailing southwestward across

Manchuria. Considerable dust was raised aloft as this cold front passed over the deserts of Mongolia and this dust was carried forward as the cold front swept across Korea on the 15th. During this time, the storm deepened very rapidly; a steepening pressure gradient with increasing wind speeds developed between the low pressure center and the following high pressure area. On the 16th the storm was centered off the east coast of Karafuto, with the trailing cold front well to the east of the Japanese archipelago. Dust was reported from stations in Kyūshū as well as from Korea.

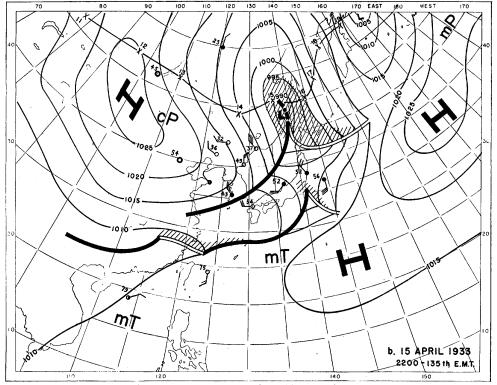
LEGEND FOR WEATHER AND PRESSURE CHARTS



TT CM PPP
Vww ®± PPa
T_sT_s C_L N_h WR_t
h RR



a. Synoptic Map, 2200 135th E.M.T. 14 April 1933.



b. Synoptic Map, 2200 135th E.M.T. 15 April 1933.

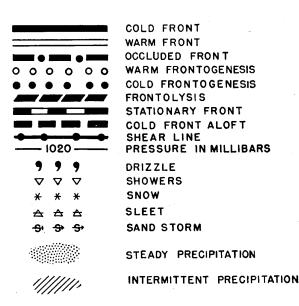
FIGURE V - 22.

(5) Synoptic series—24 June to 26 June 1934.

This series of maps (FIGURE V-23) was selected to show typical summer conditions with a minimum of storm or frontal activity. A weak frontal condition accompanied by local showers moved northeastward across Korea on the 24th of June, and

arrived over northern Japan on the 26th. Considerable cloudiness developed over sea and coastal areas as warm, moist maritime tropical air moved northward across cooler water surfaces, but scattered clouds or clear skies generally prevailed over the interior. The gradient air flow during most of this period was from the southwest.

LEGEND FOR WEATHER AND PRESSURE CHARTS



CH TT CM PPP Vww (0) ± PPa T_sT_s C_L N_h WR_t h RR

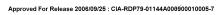
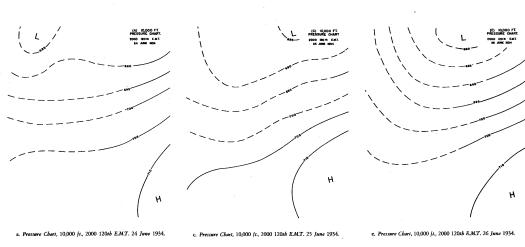
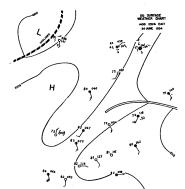
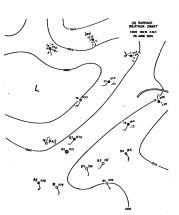


FIGURE V - 23 JANIS 75 CONFIDENTIA

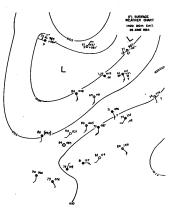




b. Surface Weather Chart, 2200 135th E.M.T. 24 June 1934.



d. Surface Weather Chart, 2200 135th E.M.T. 25 June 1934.



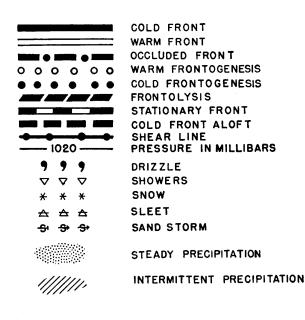
f. Surface Weather Chart, 2200 135th E.M.T. 26 June 1934.

(6) Synoptic series—10 September to 12 September 1914.

Although typhoons are relatively uncommon over Korea, occurring on an average of only 2 times a year, the effects of their passage are so important that a short series of synoptic maps has been selected to indicate the synoptic situation under which a typhoon occurred (FIGURE V-24). Early in September, a trough of low pressure extended along the 15th parallel across Southeastern Asia and the southwestern part of the North Pacific. Throughout the first 4 days of the month, a low pressure area of rather indefinite extent prevailed in the vicinity of Guam. On the 4th there were definite signs of cyclonic rotation about this low pressure area while a typhoon of earlier origin approached the China coast. On the 5th and 6th, the new tropical disturbance began to move slowly toward the northwest, and the fully-developed typhoon reached the coast of China in the vicinity of Chekiang Province. The movement towards the northwest continued and on the 9th the storm had attained typhoon proportions in the vicinity of the Okinawa Gunto while the first typhoon had moved northward into the Po Hai (Gulf of Chihli) with greatly diminished intensity.

On the 10th the second typhoon intensified greatly and moved north-northwest, reaching the southwest coast of Korea on the 11th. The course of the storm was slightly east of north across the Korean peninsula moving with diminishing intensity; the storm finally filled up in the vicinity of the Udskaya Guba on the 13th. Some of the effects of this particular typhoon may be inferred from the synoptic maps. On the 10th and 11th, all surface and air traffic over the Huang Hai was either impossible or proceeded at the greatest risk. On the 11th the south and west coasts of Korea were lashed by hurricane winds, effectively stopping all air traffic, coastal shipping, and most surface movement along the coasts. High following "tides" caused immense damage where the storm entered the coast. Although the intensity of the storm diminished rapidly after the center had moved inland, heavy rains continued to attend its movement across Korea. The 2-day record for rainfall established by this storm still stands for many localities in northeastern Korea; among those records are 10.51 inches at Songjin, 9.72 inches at Unggi, 6.32 inches at Hyesanjin, 3.95 inches at Musan, and 5.45 inches at Kapsan.

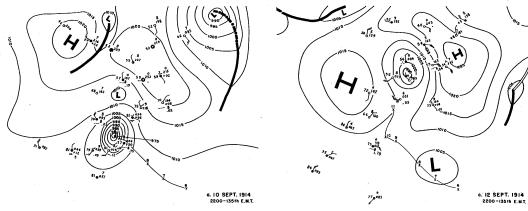
LEGEND FOR WEATHER AND PRESSURE CHARTS



TT CM PPP
Vww ®± PPa
T_sT_s C_L N_h WR₁
h RR

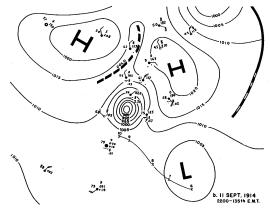
FIGURE V - 24 JANIS 75 CONFIDENTIAL

Approved For Release 2006/09/25 : CIA-RDP79-01144A000900010005-7



a. Surface Weather Chart, 2200 135th E.M.T. 10 September 1914.





b. Surface Weather Chart, 2200 135th E.M.T. 11 September 1914.

FIGURE V - 24. Synoptic Series, 10 September to 12 September 1914.

55. Climatic Statistics

Topic 55 consists of tables which give more detailed climatic information than has been presented in Topics 51, 52, and 53. L.C.T. as used in these tables refers to 135th meridian time. Following is an alphabetized list of the stations giving location and elevation. The station names are Korean, but the Japanese forms as they appear in the official publications of the Meteorological Observatory of the Government-General of Tyosen at Inch'on (Zinsen) are included.

TABLE V - 15 LIST OF STATIONS

		0- 0111101	_	
Station	Alternate Spelling*	LATITUDE	Longitude	ELEVATION FEET
Cheju	Saisyu	33°31′N	126°32′E	69
Ch'ongjin	Seisin	41°46′N	129°51′E	164
Ch'ongju	Seisyu	36°37′N	127°28′E	
Chongson	Seizen	37°23′N	128°40'E	1007
Chonju	Zensyu	35°49′N	127°09'E	172
Ch'osan	Sosan	40°50′N	125°48′E	623
Chunggangjin	Tyukotin	41°47′N	126°53′E	1026
Haeju	Kaisyu	38°03′N	125°43′E	
Hamhung	Kanko	39°54′N	127°32′E	
Hangmun-do	Komon-to	34°06′N	126°36′E	305
Hoeyang	Waiyo	38°42′N	127°36′E	1132
Huichon	Kisen	40°10′N	126°17′E	459
Hyesanjin	Keisantin	41°13′N	128°17′ E	2379
Inch'on	Zinsen	37°29′N	126°37 ′E	226
Izuhara	Ituhara	34°11′N	129°15′E	24

ALTERNATE	. 25 30,,,,,,	LONGITUDE	ELEVATION
Spelling*	LATITUDE		FEET
Kokai	40°58′N	126°36′E	1043
Koryo	37°42′N	128°48′E	31
Kokusan			518
			39
			318
Keizyo	37°34′N	126°59′E	97
Mara-to	33°07′N	126°15′E	125
Морро	34°47′N	126°20'E	89
Mosan	42°14′N	129°13′E	1542
Hoko	36°02′N	129°22′E	7
Hosan	40°49'N	128°10'E	3773
Husan	35°06′N	129°01'E	44
Heizyo	39°01′N	125°41′E	138
Singisyu	40°06′N	124°25′E	16
Kokusan-to	34°06′N	125°06'E	276
Zyosin	40°40′N	129°11′E	100
Zyunten	34°57′N	127°29′E	59
Taikyu	35°52′N	128°35′E	166
Uturyo-to	37°29'N	130°54′E	164
Yuki	42°20′N	130°24′E	211
Gensan	39°11 ′N	127°26′E	115
Ryugampo	39°56′N	124°22′E	17
Eiyo	36°40′N	129°08′ E	
	SPELLING* Kokai Koryo Koryo Kokusan Kozyo Kunsan Kakuretuhi-to Keizyo Mara-to Moppo Mosan Hoko Hosan Husan Husan Husan Husan Husan Taikyu Uturyo-to Yuki Gensan Ryugampo	SPELLING* LATITUDE Kokai 40°58'N Koryo 37°42'N Kokusan 38°40'N Kozyo 38°40'N Kunsan 35°59'N Kakuretuhi-to 36°38'N Keizyo 37°34'N Mara-to 33°07'N Moppo 34°47'N Mosan 42°14'N Hoko 36°02'N Hosan 40°49'N Husan 35°06'N Heizyo 39°01'N Kokusan-to 34°06'N Zyosin 40°40'N Zyunten 34°57'N Taikyu 35°52'N Yuki 42°20'N Gensan 39°11'N Ryugampo 39°56'N	SPELLING* LATITUDE Kokai 40°58°N 126°36′E Koryo 37°42′N 128°48′E Kokusan 38°40′N 128°19′E Kozyo 38°40′N 128°19′E Kunsan 35°59′N 126°43′E Kakuretuhi-to 36°38′N 126°59′E Mara-to 33°07′N 126°15′E Moppo 34°47′N 126°20′E Mosan 42°14′N 129°13′E Hoko 36°02′N 129°22′E Hosan 40°49′N 128°10′E Husan 35°06′N 129°01′E Heizyo 39°01′N 125°41′E Singisyu 40°06′N 122°25′E Kokusan-to 34°06′N 122°26′E Zyosin 40°40′N 129°11′E Zyosin 40°40′N 129°11′E Zyunten 34°57′N 127°29′E Taikyu 35°52′N 130°24′E Yuki 42°20′N 130°24′E Gensan 39°11′N 127°26′E

^{*} Alternate spellings as they appear in the official publications of the Meterological Observatory of the Government-General of Tyosen at Zinsen.

A. Precipitation.

TABLES V-16 to V-22 give precipitation statistics for selected stations in Korea.

TABLE V-16 MEAN PRECIPITATION (IN.)

Station	Jan	FEB	Mar	Apr	May	Terne	7	. (==)				_		YRS
STATION	JAN	LED	MINIC	APR	MAX	Jun	Jul	Aug	SEP	OCT	Nov	DEC	Ann	REC
]	EAST COA	AST LOW	LANDS A	ND HILLS						
Unggi	0.2	0.4	0.9	1.2	3.0	3.3	4.5	7.1	4.2	2.9	1.0	0.5	29.2	15
Ch'ongjin	0.4	0.3	0.6	0.8	2.2	2.7	4.6	6,2	4.4	1.8	1.0	0.6	25.6	27
Songjin	0.9	0.6	0.8	1.2	2.4	2.3	4.5	5.7	4.6	1.8	1.9	1.2	27.9	24
Hamhung	0.5	0.6	0.9	1.6	2.4	3.3	7.9	8.1	4.3	1.4	1.1	. 0.5	32.6	28
Wonsan	1.2	1.5	1.8	2.8	3.4	4.7	10.5	12.1	7.0	3.3	2.5	1.4	52.2	21
Kosong	0.7	1.0	1.0	2.8	2.9	3.4	10.5	9.9	6.3	2.3	2.6	1.4	44.8	19
Kangnung	2.4	2.3	2.1	2.9	3.2	3.9	9.6	8.6	6.9	2.8	2.4	2.4	49.5	18
P'ohang-dong	1.3	1.7	1.7	2.7	2.7	5.1	7.6	6.4	5.6	1.9	1.3	1.5	39.5	20
*					NAKTONO	g-gang 1	Basin an	ND HILLS						
Pusan	1.6	1.4	2.6	5.6	4.8	8.2	11.0	6.9	6.9	2,4	1.8	1.1	54.3	25
Taegu	1.0	0.9	1.2	3.0	2.9	5.0	8.4	6.1	5.4	1.5	1.3	0.8	37.5	22
				South	COAST	Lowlan	DS, HILLS	s and Isi	ANDS					
Sunch'on	1.9	1.5	1.8	5.6	4.6	9.6	12.1	11.9	6.4	2.1	1.3	0.8	59.6	9
Hangmun-do	1.5	1.5	2.2	4.2	3.4	6.4	7.5	4.7	4.2	1.9	1.8	1.0	40.3	14
Mokp'o	1.7	1.5	1.6	3.8	3.3	5.9	8.3	5.7	4.2	2.1	1.7	1.3	41.1	20
Sohuksan-do	2.0	3.7	2.7	3.5	5.8	5.4	7.9	6.3	2.4	4.2	3.0	1.0	47.9	2
				West	Coast I	OWLANI	s, Hills	AND ISL	ANDS					
Chonju	1.3	1.3	1.5	3.1	3.0	4.4	12.7	9.6	4.8	2.3	1.8	1.9	47.7	11
Kunsan	1.0	0.8	1.2	3.5	3.0	6.2	9.5	8.5	5.8	1.7	1.8	1.4	44.4	25
Ch'ongju	0.9	1.0	1.3	3.6	3.1	5.5	13.6	8.9	5.2	1.6	1.4	1.2	47.3	25
Kyongnyolbi-yolto	0.8	0.9	0.9	2.2	2.3	3.5	6.4	8.7	3.4	1.9	1.3	0.7	33.0	12
Inch'on	0.8	0.7	1.2	2.6	3.3	3.9	10.9	8.8	4.3	1.6	1.6	1.1	40.8	30
Kyongsong	1.1	0.8	1.6	3.2	3.1	5.4	12.6	10.3	4.4	1.5	1.9	0.8	46.7	17
Haeju	0.7	0.6	1.2	2.3	3.6	4.2	10.6	9.1	5.1	1.6	1.4	1.0	41.4	25
P'yongyang	0.6	0.5	1.0	1.8	3.1	2.9	9.8	9.0	4.3	1.9	1.3	0.8	37.0	20
					Low	ver Amn	ok Vali	LEY						
Yongamp'o	0.6	0.4	0.9	1.5	3.2	3.2	9.2	7.5	4.7	2.6	1.3	0.6	35.7	24
Sinuiju	0.2	0.4	0.7	2.2	3.9	5.0	10.8	10.8	3.9	2.0	1.2	0.7	41.8	8

Ä		
Con	nnde	ential

					TAI	BLE V - 10	S Continu	ied							
STATION	Jan	FEB	MAR	Apr	May	Jun	JUL	Aug	SEP	ОСТ	Nov	DEC	Ann	Yrs Rec	
				•	North	ERN KOR	EAN HIG	HLANDS							
Musan	0.2	0.2	0.4	0.8	2.6	3.6	4.1	4.7	2.5	1.4	0.6	0.3	21.4	24	
Chunggangjin	0.4	0.4	0.8	1.4	3.3	4.3	7.4	6.7	3.1	1.7	1.2	0.7	31.4	20	
Hyesanjin	0.4	0.3	0.4	1.0	2.4	3.5	5.3	5.1	2.3	1.1	0.5	0.4	22.7	30	
Kanggye	0.4	0.5	1.0	2.0	3.4	4.9	8.6	8.4	3.7	2.1	1.4	0.6	37.0	20	
Ch'osan	0.5	0.5	0.9	1.7	3.3	4.1	8.6	8.1	4.2	2.5	1.6	0.9	36.9	24	
P'ungsan	0.3	0.4	0.6	1.1	2.4	4.0	5.0	6.7	2.8	1.0	0.7	0.3	25.3	20	
					Nort	HERN TA	еваек R	ANGE						*	
Huich'on	0.7	0.6	1.3	2.2	3.5	4.6	15.5	11.9	5.4	2.4	1.5	0.9	50.5	24	
Koksan	0.7	0.8	1.2	2.5	3.0	4.6	16.2	11.5	5.5	2.0	1.6	1.2	50.8	22	
				Sou	THERN T	AEBAEK.	and Sob	AEK RAN	IGES						
Hoeyang	0.6	0.9	1.1	2.5	3.6	4.5	13.1	10.3	4.7	1.7	1.5	1.0	45.5	24	
Chongson	0.7	0.9	1.4	3.3	3.0	5.3	11.5	7.4	4.5	1.2	1.4	1.1	41.7	23	
Yongyang	0.9	1.2	1.2	3.2	3.2	6.5	11.1	5.7	3.2	1.8	1.0	0.7	39.7	8	
					Is	SLAND AI	PROACHI	ES	9						
Ullung-do	5.5	4.1	3.0	3.8	3.3	4.4	6.2	5.5	6.9	3.6	4.3	6.8	57.4	19	
Izuhara	3.6	3.7	5.0	8.8	7.6	14.0	13.1	9.9	12.6	5.5	3.2	3.1	90.1	30	
Cheju	2.4	2.8	2.9	4.2	2.9	6.5	8.4	8.2	8.7	2.6	2.5	2.9	55.0	20	
Mara-do	1.8	1.9	2.9	5.5	3.6	6.8	7.5	4.9	3.3	2.5	2.2	1.1	44.0	8	

TABLE V - 17

Station Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Rec
Unggi 0.7 1.1 3.3 2.9 5.2 5.6 11.0 13.4 11.4 7.2 2.7 1.7 10 Songjin 2.3 2.0 2.3 4.3 5.3 5.1 10.2 9.5 11.3 5.7 4.4 3.1 19 Wonsan 3.3 5.1 5.3 7.1 5.9 12.3 16.3 21.3 16.4 17.9 5.6 7.1 21 Kangnung 7.6 5.8 4.8 7.4 5.7 9.4 18.6 18.0 19.8 5.0 5.1 5.5 13 **NAKTONG-GANG BASIN AND HILLS** Pusan 6.2 8.1 7.6 11.1 15.2 21.5 27.3 18.7 20.3 6.5 5.0 4.5 25 Taegu 2.7 2.8 3.2 6.6 7.6 17.0 19.7 9.3 11.0 4.5 3.1 3.0 17 **SOUTH COAST LOWLANDS, HILLS AND ISLANDS** Mokp'o 2.9 4.5 3.6 7.2 7.0 17.7 18.1 12.7 9.7 5.6 3.4 4.1 20 ** **Western Lowlands and Hills**
Songjin 2.3 2.0 2.3 4.3 5.3 5.1 10.2 9.5 11.3 5.7 4.4 3.1 19 Wonsan 3.3 5.1 5.3 7.1 5.9 12.3 16.3 21.3 16.4 17.9 5.6 7.1 21 Kangnung 7.6 5.8 4.8 7.4 5.7 9.4 18.6 18.0 19.8 5.0 5.1 5.5 13 **NAKTONG-GANG BASIN AND HILLS** Pusan 6.2 8.1 7.6 11.1 15.2 21.5 27.3 18.7 20.3 6.5 5.0 4.5 25 Taegu 2.7 2.8 3.2 6.6 7.6 17.0 19.7 9.3 11.0 4.5 3.1 3.0 17 **SOUTH COAST LOWLANDS, HILLS AND ISLANDS** Mokp'o 2.9 4.5 3.6 7.2 7.0 17.7 18.1 12.7 9.7 5.6 3.4 4.1 20 **WESTERN LOWLANDS AND HILLS**
Songjin 2.3 2.0 2.3 4.3 5.3 5.1 10.2 9.5 11.3 5.7 4.4 3.1 19 Wonsan 3.3 5.1 5.3 7.1 5.9 12.3 16.3 21.3 16.4 17.9 5.6 7.1 21 Kangnung 7.6 5.8 4.8 7.4 5.7 9.4 18.6 18.0 19.8 5.0 5.1 5.5 13 **NAKTONG-GANG BASIN AND HILLS** Pusan 6.2 8.1 7.6 11.1 15.2 21.5 27.3 18.7 20.3 6.5 5.0 4.5 25 Taegu 2.7 2.8 3.2 6.6 7.6 17.0 19.7 9.3 11.0 4.5 3.1 3.0 17 **SOUTH COAST LOWLANDS, HILLS AND ISLANDS** Mokp'o 2.9 4.5 3.6 7.2 7.0 17.7 18.1 12.7 9.7 5.6 3.4 4.1 20 **WESTERN LOWLANDS AND HILLS**
Wonsan 3.3 5.1 5.3 7.1 5.9 12.3 16.3 21.3 16.4 17.9 5.6 7.1 21 Kangnung 7.6 5.8 4.8 7.4 5.7 9.4 18.6 18.0 19.8 5.0 5.1 5.5 13 NAKTONG-GANG BASIN AND HILLS Pusan 6.2 8.1 7.6 11.1 15.2 21.5 27.3 18.7 20.3 6.5 5.0 4.5 25 Taegu 2.7 2.8 3.2 6.6 7.6 17.0 19.7 9.3 11.0 4.5 3.1 3.0 17 SOUTH COAST LOWLANDS, HILLS AND ISLANDS Mokp'o 2.9 4.5 3.6 7.2 7.0 17.7 18.1 12.7 9.7 5.6 3.4 4.1 20 WESTERN LOWLANDS AND HILLS
Naktong-gang Basin and Hills Naktong-gang Basin and Hills
Pusan 6.2 8.1 7.6 11.1 15.2 21.5 27.3 18.7 20.3 6.5 5.0 4.5 25 Taegu 2.7 2.8 3.2 6.6 7.6 17.0 19.7 9.3 11.0 4.5 3.1 3.0 17 SOUTH COAST LOWLANDS, HILLS AND ISLANDS Mokp'o 2.9 4.5 3.6 7.2 7.0 17.7 18.1 12.7 9.7 5.6 3.4 4.1 20 WESTERN LOWLANDS AND HILLS
Taegu 2.7 2.8 3.2 6.6 7.6 17.0 19.7 9.3 11.0 4.5 3.1 3.0 17
Taegu 2.7 2.8 3.2 6.6 7.6 17.0 19.7 9.3 11.0 4.5 3.1 3.0 17
Mokp'o 2.9 4.5 3.6 7.2 7.0 17.7 18.1 12.7 9.7 5.6 3.4 4.1 20 Western Lowlands and Hills
Mokp'o 2.9 4.5 3.6 7.2 7.0 17.7 18.1 12.7 9.7 5.6 3.4 4.1 20 Western Lowlands and Hills
Western Lowlands and Hills
Kunsan 2.1 2.8 2.6 /.3 3.1 22./ 18./ 8.1 14.2 3.1 3.6 2.3 9
Inch'on 2.6 2.7 3.8 5.2 5.6 6.1 28.7 32.4 10.2 4.2 3.6 5.0 16 Propagang 2.4 3.1 2.2 6.6 5.3 12.2 25.4 8.1 11.3 2.8 2.8 1.9 8
Tyongyang 2.1
LOWER AMNOK VALLEY
Yongamp'o 3.1 1.1 3.3 3.7 10.0 7.6 20.6 17.1 13.5 11.1 3.4 1.4 20
Northern Korean Highlands
Chunggangjin 1.5 1.0 2.1 2.9 5.7 7.9 14.0 12.3 8.0 2.3 2.8 1.0 10
Hyesanjin 1.1 0.5 1.0 1.7 3.8 6.5 8.8 8.1 8.3 1.9 2.7 3.5 16
Ch'osan 2.1 2.1 2.7 3.7 7.4 8.7 17.2 15.8 10.1 3.3 2.6 3.1 10
Northern Taebaek Range
Huich'on 2.1 1.0 3.5 3.4 7.6 7.4 33.7 18.4 20.1 6.6 4.7 1.6 9
SOUTHERN TAEBAEK AND SOBAEK RANGES
Chongson 2.1 3.7 3.4 6.8 4.8 12.2 20.7 9.1 12.3 3.1 2.8 1.8 8
ISLAND APPROACHES
Ullung-do 9.7 13.7 3.5 5.7 5.0 5.6 7.6 9.6 11.7 7.2 7.9 9.3 0 Cheju 4.3 4.7 6.7 9.8 3.8 15.2 14.2 13.9 12.7 5.6 5.1 4.6 9
NOTE: Greatest monthly amount at any station—42.7 inches in August 1922 at Sin'gye (Shinkei) 38°30'N, 126°32'E, elevation 197 ft.

						TABLE							
				LEA	AST MON	THLY PR	ECIPITAT	TION (IN	.)				Yrs
STATION	Jan	FEB	MAR	APR	MAY	Jun	Jul	Aug	SEP	ОСТ	Nov	DEC	REC
TT!		^	0.1	0.4		AST LOWL			۰.	0./	0.2		10
Unggi Songjin	0 0.1	0 †	0.1 0.1	0.4 0.1	0.4 0.4	0.4 0.4	0.9	2.2 0.6	0.4 0.6	0.4 †	0.3 0.5	† 0.1	10 19
Wonsan	†	+	0.1	†	1.3	1.0	† 0.4	5.5	0.5	0.4	0.1	0.1	21
Kangnung	+	+	0.1	1.4	0.9	0.8	3.1	3.8	0.5	1.6	0.3	0.1	13
0 0		·			-	ig-gang B	-	-					_
Pusan	0	†	0	2.1	1.5	2.0	1.1	1.9	1.1	0.1	+	0.1	25
Taegu	†	Ť	0	1.4	0.8	1.9	1.6	2.3	0.3	+	÷	†	17
				Sou	тн Солст	LOWLAND	s, Hills	and Islan	DS.				
Mokp'o	0.2	0.2	0.1	2.0	1.2	0.6	1.1	1.7	0.5	0.1	0.6	0.4	20
					WESTER	RN LOWLA	NDS AND	HILLS					
Kunsan	0.3	0.2	0.3	1.6	0.9	1.8	2.5	4.5	1.6	0.3	1.3	0.4	9
Inch'on	0.1	†	0.3	0.1	1.1	1.1	5.9	0.4	0.8	0.4	0.8	0.2	16
P'yongyang	0.1	†	0.1	0.2	0.4	4.1	6.6	3.9	†	†	0.4	0.1	8
						wer Amn	ok Valle	Y					
Yongamp'o	†	†	†	0.3	0.4	1.0	1.9	1.4	0.8	0.2	0.2	†	20
					North	ern Kore	AN HIGHI	LANDS					
Chunggangjin	0.1	0.1	0.1	0.7	1.4	2.8	2.9	4.1	1.1	0.4	0.4	0.2	10
Hyesanjin	†	0	0.1	0.3	0.9	0.6	1.6	1.5	1.2	0.3	0.1	0.1	16
Ch'osan	0.1	0.1	0.2	0.5	1.3	1.5	3.0	2.1	2.6	0.7	0.6	0.2	10
TTt.d./		0.0	۰,			HERN TAI							_
Huich'on	†	0.2	0.4	1.0	1.5	1.7	2.0	6.6	1.3	0.9	0.2	0.1	9
				So	UTHERN T	AEBAEK A	ND SOBAI	ek Range	s				
Chongson	0.1	0.2	0.3	1.0	1.7	4.4	5.5	3.8	1.8	0.5	0.1	0.2	8
					Is	SLAND API	PROACHES						
Ullung-do	6.1	5.3	1.6	1.4	2.0	2.0	6.2	4.0	7.6	1.0	2.2	5.1	4
Cheju † Less than 0.05	1.4	0.9	1.8	2.4	0.8	2.4	1.8	1.8	3.4	1.1	0.6	0.6	9
i Less than 0.0)	men.												
			•										
						TABLE	V - 19						
				GREA'	TEST PRE	CIPITATI	ON IN 24	HOURS	(IN.)				
STATION	Jan	FEB	Mar	Apr	May	Jun	Jul	Aug	SEP	Ост	Nov	DEC	Yrs Rec
					EAST CO	AST LOWL	-	Huls					
Unggi	0.4	1.1	1.8	1.4	2.2	4.0	4.1	8.2	6.2	3.4	1.5	1.1	15
Songjin	0.9	1.2	1.4	1.8	3.2	3.0	4.9	6.0	7.4	3.6	2.3	1.7	24
Wonsan	2.9	2.9	3.8	4.6	5.0	4.8	6.9	7.7	9.6	8.8	3.4	3.3	29
Kangnung	2.7	2.9	3.0	4.0	2.7	3.2	7.8	8.4	12.0	3.3	2.9	2.6	18
					Nakton	ig-gang B	ASIN AND	HILLS					
Pusan	8.2	2.6	2.9	7.0	5.7	6.1	9.9	8.2	8.0	7.0	2.0	1.5	29
Taegu	1.3	1.1	0.9	2.1	3.2	5.0	5.6	4.2	5.2	2.3	1.7	1.3	22
					TH COAST		-						
Mokp'o	1.7	1.5	1.8	3.7	7.4	4.5	7.9	6.1	4.8	3.1	1.9	1.2	25
					WESTER	N LOWLA	NDS AND	Hills					
Kunsan	0.9	0.8	0.9	2.1	3.2	8.1	7.5	5.5	6.9	2.8	1.3	1.2	9
Inch'on	2.3	2.4	4.9	2.6	3.0	3.9	7.7	13.7	5.0	2.8	2.4	1.0	30
P'yongyang	1.6	2.0	2.0	1.5	3.7	4.1	7.6	8.3	5.8	4.0	1.2	1.1	20
**		0.5				WER AMNO					• •	0.0	٠,
Yongamp'o	1.3	0.5	1.9	1.6	5.8	3.3	9.6	6.2	8.2	4.3	1.8	0.8	24
						ern Kore	an Highi	ANDS					
Chunggangjin	0.4	0.5	1.6	1.2	2.1	2.9	3.9	3.7	2.1	1.6	1.7	0.5	20
Hyesanjin	0.6	0.2	0.8	0.8	1.7	1.4	2.3	2.6	4.9	1.4		1.2	16
Ch'osan	1.1	0.4	1.1	0.8	3.3	3.4	5.8	4.9	5.1	1.9	1.0	1.1	10
TT ! 1 !	0.0	0.1				HERN TAI				, ,	2.2	0.0	_
Huich'on	0.9	0.4	1.3	1.7	2.0	3.8	8.2	8.9	4.6	4.4	2.0	0.8	9

					TA	BLE V - 1	9 Continue	d					
STATION	Jan	FEB	Mar	APR	May	Jun	Jul	Aug .	SEP	ОСТ	Nov	DEC	Yrs REC
				So	UTHERN T	AEBAEK .	and Sobae	k Range	S				
Chongson	0.9	1.3	1.2	2.7	2.0	4.6	6.1	3.4	4.9	1.4	1.5	1.5	8
					Is	SLAND AP	PROACHES						
Ullung-do	1.7	5.5	1.2	3.9	2.3	2.6	3.3	4.1	8.6	3.4	3.4	2.9	4
Izuhara	5.0	4.0	4.4	5.9	8.3	8.8	8.0	6.9	15.4	9.2	4.8	3.8	42
Cheju	1.2	1.8	2.4	3.3	2.4	5.2	7.1	11.1	11.9	2.6	2.2	2.2	19
NOTE: Grea	atest precipi	itation in 2	4 hours on 1	record—19.	1 inches on	August 1,	19 20 at Kwa	angju (Kos	hu) 37°29′	N, 127°11′	E, elevation	1,115 ft.	

TABLE V - 20 AVERAGE NUMBER OF DAYS WITH PRECIPITATION (0.004 IN. OR MORE)

					(0.0	004 IN. (OR MOR	E) .						
STATION	Jan	FEB	MAR	Apr	MAY	Jun	Jul	Aug	SEP	ОСТ	Nov	DEC	Ann	Yrs Rec
					EAST CO.	ast Low	LANDS AI	ND HILLS	;					
Unggi	3.3	3.7	5.5	6.5	15.1	15.1	16.5	15.4	• 9.9	7.2	5.9	4.2	108.3	15
Ch'ongjin	8.0	4.3	5.7	6.3	13.8	16.7	15.8	12.8	9.5	6.4	7.1	7.9	114.3	13
Songjin	8.5	6.3	6.3	5.8	10.6	11.7	13.0	12.1	9.0	6.4	8.0	8.1	105.8	24
Hamhung	5.0	4.3	5.8	6.1	9.4	10.6	14.3	13.6	9.4	6.9	6.2	4.0	95.6	14
Wonsan	5.2	6.1	7.3	7.9	10.9	12.6	17.4	16.3	12.1	7.7	7.3	5.5	116.3	21
Kosong	4.0	3.5	4.0	5.7	9.0	7.3	14.0	13.3	10.0	5.3	4.5	2.0	82.6	5
Kangnung	6.8	7.2	8.6	8.7	11.4	10.3	14.1	14.2	11.9	7.7	6.3	5.7	112.9	18
P'ohang-dong	7.0	7.4	6.4	6.6	6.4	9.8	10.8	11.0	10.8	6.8	3.6	4.0	90.6	6
					NAKTON	G-GANG	Basin an	D HILLS				-		
Pusan	6.4	5.7	8.6	9.5	8.4	11.6	13.5	10.6	11.3	6.4	6.7	5.5	104.2	25
Taegu	5.7	5.0	7.1	8.6	9.0	11.1	13.0	12.0	10.4	5.6	6.6	5.4	99.5	22
				Sout	тн Coast	Lowlan	os, Hills	AND ISL	ANDS					
Sunch'on	5.9	4.9	7.1	7.9	8.0	12.8	14.3	13.1	11.0	5.6	5.6	5.6	101.8	10
Hangmun-do	9.2	7.6	8.4	10.0	8.3	12.1	11.4	8.8	8.8	7.1	8.3	8.2	108.2	15
Mokp'o	12.7	10.5	9.0	9.7	9.6	10.8	15.5	12.5	10.5	7.9	11.7	13.5	133.9	13
Sohuksan-do	16.0	11.5	9.0	10.0	12.5	12.0	14.0	12.5	9.0	5.5	11.5	11.0	134.5	3
					WESTER	n Lowl	ANDS ANI	HILLS						
Chonju	9.0	8.2	8.7	10.3	9.1	11.2	15.9	13.0	10.6	7.6	10.3	9.0	122.9	11
Kunsan	10.9	6.9	6.0	8.1	7.9	10.4	13.7	12.0	10.7	6.4	9.4	10.6	113.0	10
Ch'ongju	6.1	5.7	7.8	8.4	9.1	10.4	13.8	12.3	9.5	6.9	9.2	6.4	105.6	11
Kyongnyolbi-yolto	10.5	5.3	4.5	7.0	6.5	8.8	12.2	10.3	7.3	5.8	8.7	11.2	98.1	12
Inch'on	7.3	5.0	6.0	7.8	9.2	9.1	14.8	11.7	8.8	7.0	8.5	8.7	103.9	25
Kyongsong	7.6	6.1	7.6	8.5	9.8	10.9	15.3	13.2	9.5	6.8	9.0	8.6	112.9	17
Haeju	5.0	4.3	5.5	6.0	8.1	9.6	13.8	13.1	7.6	6.5	8.0	7.2	94.7	11
P'yongyang	5.2	4.6	6.3	6.6	9.6	9.4	15.2	13.5	8.2	7.2	9.2	7.6	102.8	20
					Lov	WER AMN	ok Vali	LEY						
Yongamp'o	4.8	4.4	6.0	7.3	10.5	11.3	15.6	11.7	8.8	7.6	6.8	5.5	100.3	24
Sinuiju	2.3	3.1	4.1	6.0	12.1	9.1	13.4	15.1	8.6	5.6	4.6	2.3	86.3	8
					North	ERN KOR	ean Higi	HLANDS						
Musan	4.3	3.7	6.6	9.4	16.9	17.0	16.4	14.0	11.4	7.6	5.6	3.4	116.3	10
Chunggangjin	7.4	6.2	9.0	9.6	15.2	15.5	18.4	15.2	12.0	9.7	10.2	9.0	137.5	20
Hyesanjin	4.4	3.4	4.1	6.6	11.0	13.4	16.0	11.8	8.1	5.8	5.3	4.7	94.6	17
Kanggye	6.5	5.2	8.7	11.2	13.7	11.5	17.5	16.3	11.8	9.7	10.5	7.0	129.6	7
Ch'osan	6.0	6.2	8.0	9.1	13.3	11.7	14.2	13.7	10.1	8.3	8.2	5.8	114.6	10
P'ungsan	3.3	4.1	5.9	7.0	12.6	11.9	13.9	11.4	8.1	5.7	5.3	3.6	92.8	8
					Nort	HERN TA	еваек R	ANGE						
Huich'on	5.9	5.0	8.4	8.4	14.4	10.7	16.6	14.1	9.7	9.0	6.7	4.8	113.7	10
Koksan	4.6	3.8	8.4	5.1	7.7	8.5	13.0	10.7	7.9	5.8	5.1	4.3	81.3	9
				Sot	THERN T	AEBAEK	AND SOB	AEK RAN	IGES					
Hoeyang	7.3	6.3	6.9	7.6	10.8	9.7	15.0	13.4	9.9	7.8	7.1	5.4	107.2	10
Chongson	6.5	7.1	8.0	8.8	11.0	11.3	16.1	14.0	11.0	6.6	8.0	5.4	113.8	9
Yongyang	5.6	6.5	7.0	7.1	9.0	10.1	14.6	11.9	9.6	5.4	6.1	5.0	97.9	8
•					Is	LAND AF	PROACHE	ES						
Ullung-do	24.3	21.8	15.3	8.3	8.5	9.8	10.8	10.8	14.0	11.0	16.5	24.0	175.1	4
Izuhara	12.1	10.8	13.1	12.2	10.8	13.9	15.3	13.2	14.1	9.4	9.7	10.1	144.7	30
Cheju	15.6	12.9	11.2	11.0	9.5	12.6	12.0	11.6	12.2	7.9	12.3	15.9	144.7	20
Mara-do	10.5	9.9	9.9	11.0	11.0	13.4	12.4	10.4	10.0	7.5	9.9	11.8	127.7	8
							:							

TABLE V-21

						TABLE V -	21					
1	AVERAGE :	NUMBER (OF DAYS	WITHOUT		TATION 24 HOURS		H VARIOL	IS AMOUN	ITS OF PR	ECIPITATI	ON
	DEC	Jan	FEB	Mar	Apr	May	Jun	Jul	Aug	SEP	Ост	Nov
						MOKP'O	ι.					
0.00	20.9	21.5	20.5	24.6	21.2	24.9	21.5	19.9	20.0	22.0	24.7	22.3
0.01-0.		8.0	5.9	4.4	4.4	2.9	4.3	5.3	4.6	3.8	4.6	5.9
0.25-0.4		1.0 0.4	1.3 0.3	0.9 0.8	1.5	1.1	0.9	2.1	1.4	2.1	0.6	1.0
1.00-1.4		0.4	0.5	0.8	1.9 0.7	0.9 0.7	1.9 0.6	1.3 1.1	1.7 1.2	0.7 0.6	0.7 0.2	0.8 0.0
1.50-1.		0.0	0.1	0.0	0.0	0.3	0.4	0.5	0.6	0.1	0.2	0.0
2.00-4.9	-	0.0	0.1	0.2	0.3	0.2	0.4	0.5	1.2	0.6	0.0	0.0
5.00-9.9		0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.0	0.0
Total	31.0	31.0	28.3	31.0	30.0	31.0	30.0	31.0	. 31.0	30.0	31.0	30.0
						INCH'ON						
0.00	23.8	27.3	24.4	26.5	22.8	24.5	22.6	18.3	19.7	22.1	26.4	22.7
0.01-0.2		2.7 0.3	3.1 0.4	3.0 0.6	4.1 1.1	3.1 1.6	3.6 1.2	5.5 1.7	4.9 1.7	3.8 1.5	3.1 0.6	5.6 1.0
0.50-0.5	-	0.5	0.3	0.5	1.2	0.8	1.8	2.3	1.7	1.2	0.6	0.7
1.00-1.4		0.1	0.1	0.3	0.4	0.4	0.3	1.0	1.3	0.3	0.3	0.0
1.50-1.9		0.1	0.0	0.1	0.1	0.1	0.4	0.8	0.4	0.2	0.2	0.0
2.00-4.9 5.00-9.9		0.0 0.0	0.0	0.0 0.0	0.3	0.5	0.1	1.0	1.1	0.9	0.0	0.0
Total	31.0	31.0	28.3	31.0	0.0 30.0	0.0 31.0	0.0 30.0	0.4 31.0	0.0 31.0	0.0 30.0	0.0 31.0	0.0 30.0
2000	J1.0	52.0	20.5	31.0	50.0		50.0	71.0	<i>J</i> 1.0	50.0	<i>J</i> 1.0	70.0
0.00	. 20.0	20.0	10.1	22.6	207	CHEJU	22.4	22.2	20.1			
0.00 0.01-0.2	20.0 24 8.0	20.0 8.0	19.1 6.0	23.6 3.8	20.7 4.4	24.6 3.2	22.1 3.4	22.3 3.3	20.4 4.4	20.3 4.5	25.2 3.4	20.8
0.25-0.4		1.7	0.9	2.3	2.2	0.9	1.2	1.8	1.9	1.6	5.4 1.1	5.8 1.9
0.50-0.9		1.1	1.6	0.8	1.8	1.3	1.5	1.2	1.9	1.5	0.7	1.1
1.00-1.4		0.2	0.6	0.2	0.6	0.6	0.9	1.1	1.0	0.7	0.3	0.1
1.50-1.9 2.00-4.9		0.0 0.0	0.1	0.1	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2
5.00-9.9		0.0	0.0	0.2 0.0	0.1 0.0	0.2 0.0	0.5 0.1	1.0 0.1	0.8 0.3	0.8 0.3	0.1 0.0	0.1 0.0
Total	31.0	31.0	28.3	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0
						SONGJIN	ī					
0.00	25.7	26.0	23.0	27.4	26.2	23.4	21.6	20.2	21.0	24.4	26.4	25.0
0.01-0.2		4.2	4.9	2.7	2.1	5.3	5.6	6.0	4.0	2.8	3.0	3.2
0.25-0.4		0.5	0.3	0.6	1.3	0.8	0.7	1.5	1.7	0.9	0.9	1.2
0.50-0.9		0.3	0.1	0.3	0.2	1.0	1.2	2.2	2.0	0.8	0.3	0.4
1.00-1.4 1.50-1.9		0.0 0.0	0.0 0.0	0.0 0.0	0.2 0.0	0.2 0.2	0.1 0.2	0.3 0.6	0.5	0.4	0.0	0.5
2.00-4.9		0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.7 1.0	0.3 0.4	0.0 0.3	0.1 0.0
5.00-9.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
Total	31.0	31.0	28.3	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0
						WONSAN	1				h	
0.00	25.3	27.7	23.3	24.8	23.0	23.9	19.6	15.2	15.3	20.6	26.3	24.0
0.01-0.2 0.25-0.4		2.0 0.8	2.7 1.2	3.9 1.2	3.5	3.8	6.7	7.6	7.6	4.7	2.7	3.0
0.50-0.9		0.3	0.9	0.5	1.8 1.0	1.4 1.0	1.3 1.1	2.9 2.5	1.8 1.8	0.5 2.4	0.7 0.8	1.1 1.2
1.00-1.4		0.2	0.2	0.4	0.3	0.4	0.6	0.9	1.7	0.6	0.0	0.4
1.50-1.9		0.0	0.0	0.1	0.2	0.3	0.4	0.4	0.7	0.3	0.0	0.0
2.00-4.9 5.00-9.9		0.0 0.1	0.0	0.1	0.2	0.2	0.3	1.4	1.8	0.9	0.4	0.3
Total	31.0	31.0	0.0 28.3	0.0 31.0	0.0 30.0	0.0 31.0	· 0.0	0.1 31.0	0.3 31.0	0.0 30.0	0.0 31.0	0.0
10111	51.0	71.0	20.9	51.0	50.0	51.0	50.0	51.0	51.0	50.0	31.0	30.0
0.00	24.5	27.1	21.5	242		ANGNUN		10.0	17.6	21 /	25.0	
0.00		1.5	3.1	24.3 3.2	22.2 4.4	24,4 4.5	21.2 4.8	19.2 5.2	17.5 6.4	21.4 4.7	25.8 2.4	25.1
0.25-0.4		1.2	1.4	1.4	1.4	0.7	1.3	1.6	1.9	1.0	$\frac{2.4}{1.1}$	2.4 0.4
0.50-0.9	9 1.1	0.8	1.4	1.4	1.4	0.7	1.7	2.2	2.3	1.0	0.7	1.0
1.00-1.4		0.0	0.5	0.5	0.3	0.4	0.5	1.1	1.2	0.7	0.3	0.8
1.50-1.9 2.00-4.9		0.2 0.2	0.3 0.1	0.1	0.0	0.2	0.2	0.7	0.9	0.5	0.4	0.2
Total	31.0	31.0	28.3	0.1 31.0	0.3 30.0	0.1 31.0	0.3 30.0	1.0 31.0	0.8 31.0	0.7 30.0	0.3 31.0	0.1 30.0
	55	52.0	20.5	52.0	50.0	91.0	50.0	71.0	J1.0	50.0	21.0	50.0

						Тарги	V - 21 C	mtimuo	7						
						IABLE	PUSAN	· · · · · · · · · · · · · · · · · · ·	,						
	DEC	Jan	F	ЕВ	MAR	Apr	MAY		Iun	JUL	Aug		SEP	ОСТ	Nov
0.00	25.1	26.3		3.3	25.6	21.4	24.8	•	2.1	19.1	20.7	2	1.2	26.3	23.9
0.00	3.6	20.5		3.5	2.7	2.8	2.5	2	3.2	4.7	4.7		4.0	2.9	3.9
0.01-0.24	1.2	0.8		0.9	1.0	1.9	0.6		0.6	1.6	1.6		1.1	0.5	1.8
0.50-0.99	0.8	0.9		0.6	0.4	2.4	1.6		1.1	2.3	2.0		1.5	0.4	0.4
1.00-1.49	0.3	0.1		0.0	0.9	0.9	0.5		0.4	0.9	0.8		0.7	0.2	0.0
1.50-1.19	0.0	0.1		0.0	0.0	0.3	0.4		1.0		0.5		0.5	0.3	0.0
2.00-4.99	0.0	0.0		0.0	0.4	0.3	0.6		1.5	1.2	0.7		0.7	0.4	0.0
5.00-9.99	0.0	0.0		0.0	0.0	0.0	0.0		0.1	0.8	0.0		0.3	0.0	0.0
Total	31.0	31.0	2	8.3	31.0	30.0	31.0	3	0.0	31.0	31.0	. 3	0.0	31.0	30.9
						7	Table V	22		•					
					AVERA	GE NUMI	BER OF E	AYS W	ITH SN	ow					
													_		YRS
STATION		JAN	FEB	MAR	APR	MAY	Jun	Jul	Aug	SEP	OCT	Nov	Dес 7.4	Ann 37.8	REC 15
Unggi		7.0	6.6	7.6	3.6	0.4	0	0	0	0	1.0 0.1	5.6 3.8	10.2	43.8	10
Songjin		10.9	11.0	6.7	1.1	0	0	0	0	0 0	0.1	2.5	5.8	32.3	25
Wonsan		8.1	7.3	7.0	1.6	0	0	0	0	0	0	0.5	5.7	27.0	15
Kangnung		6.1	8.2	5.9 1.0	0.8 0.1	0	0	0	0	0	0	0.2	1.3	6.6	25
Pusan		1.9 4.7	2.1 4.6	2.5	0.1	0	0	0	0	0	0	0.2	4.0	16.8	15
Taegu Mokp'o		10.8	8.8	3.4	0.1	0	0	0	0	0	0	1.6	8.6	33.2	25
Ch'ongju		9.9	8.4	2.7	0.1	0	0	0	0	0	0	2.1	9.9	33.1	- 11
Inch'on		9.3	6.2	3.3	0.3	ő	C	Õ	Õ	ŏ	Ö	2.6	8.4	30.1	25
Kyongsong		9.8	6.6	4.2	0.5	0	0	ő	ő	ő	Ö	2.6	8.8	32.5	22
P'yongyang		8.3	5.5	4.1	0.5	ŏ	0	0	Õ	0	0.1	3.2	7.8	29.5	22
Yongamp'o		6.2	5.4	4.0	0.5	0	Õ	. 0	0	0	0.1	3.2	6.5	25.9	25
Chunggangji	n	14.1	11.5	12.4	5.3	0.6	0	0	0	0	2.8	10.8	15.8	73.4	15
Ch'osan		8.3	8.3	8.5	2.5	0.5	0	0	0	0	1.3	8.3	6.5	44.2	4
Izuhara		3.7	4.1	1.2	0	0	0	0	0	0	0	0.2	3.2	12.3	30
Cheju		8.2	6.0	1.5	0	0	С ,	0	0	0	0	0.3	2.7	18.7	. 10

B. Temperature. Tables $V \cdot 23$ to $V \cdot 28$ give temperature statistics for selected stations in Korea.

TABLE	٧	٢	23	

						IMBLE	V F 22 3							
					MEAN	TEMPEI	RATURE	E (° F .)						.,
						_	1				**	Due	42727	Yrs Rec
STATION	JAN	FEB	MAR	APR	MAY	Jun	JUL	Aug	SEP	OCT	Nov	DEC	Ann	KEC
				E	AST COA	ST LOWI	LANDS A	ND HILLS						
Unggi	15	20	29	42	50	58	66	70	62	50	34	21	43	20
Ch'ongjin	22	24	31	42	50	57	67	71	64	53	38	28	46	27
Songjin	21	24	33	44	51	60	68	72	64	53	39	26	46	24
Hamhung	2.1	25	35	48	58	67	73	74	65	54	40	27	49	28
Wonsan	26	27	- 36	49	59	66	- 73	74	66	55	42	30	50	29
Kosong	28	29	38	51	60	67	74	- 76	67	57	46	34	52	19
Kangnung	30	32	40	52	61	69	76	76	68	58	47	35	54	18
P'ohang-dong	33	35	44	54	63	69	77	79	69	59	49	38	56	20
				South	COAST	Lowlan	DS, HILL	s and Isi	LANDS					
Pusan	36	37	45	54	62	68	75	78	71	61	50	39	56	29
Taegu	30	33	42	54	63	72	79	80	70	58	46	33	55	22
Sunch'on	33	36	44	56	64	71	77	80	72	62	49	38	57	11
Hangmun-do*	37	38	43	52	59	65	73	77	71	62	51	41	56	17
Mokp'o	35	36	42	53	62	70	77	80	72	62	50	39	57	22
Sohuksan-do*	39	39	44	52	60	68	75	79	72	63	52	43	57	4
					WESTER	n Lowl	ANDS AN	D HILLS						
Chonju	29	31	40	52	62	71	78	79	69	. 56	45	34	54	16
Kunsan	29	32	40	52	62	70	78	. 80	70	58	46	35	54	24
Ch'ongju	24	29	39	51	62	71	: 78	78	68	55	43	31	53	25
Kyongnyolbi-yolto*	31	33	37	47	55	64	71	76	69	59	46	35	52	15
Inch'on	25	28	37	49	59	67	74	77	68	57	43	30	51	30
Kyongsong	24	29	38	51	61	71	77	78	68	56	41	28	52	18
Haeju	23	28	37	50	60	69	75	77	68	56	42	-29	51	25
P'yongyang	. 17	23	35	49	60	70	76	77	66	54	38	23	49	22

					Тав	LE V - 2	3 Contin	ued						
STATION	Jan	Fев	Mar	APR	May	Jun	Jui.	Aug	SEP	ОСТ	Nov	DEC	Ann	Yrs Rec
					Low	er Amn	ok Vali	LEY						
Yongamp'o	16	21	32	46	57	67	74	75	65	52	35	20	47	24
Sinuiju	15	21	32	46	59	68	75	75	66	52	36	21	47	7
					Northe	rn Korj	EAN HIG	HLANDS						
Musan	8	15	27	44	55	65	72	71	60	46	29	14	42	24
Chunggangjin	6	5	24	44	56	66	73	71	58	43	25	3	38	-20
Hyesanjin	4	4	21	41	54	62	70	69	56	42	23	3	37	30
Kanggye	0	8	26	45	58	67	75	74	62	47	30	9	42	20
Ch'osan	3	12	28	47	59	69	76	75	63	49	31	12	44	24
P'ungsan	2	7	21	38	50	57	65	64	53	40	24	8	36	20
					North	iern Ta	еваек R	ANGE						
Huich'on	11	18	31	47	59	68	75	75	64	50	34	18	46	24
Koksan	16	23	35	49	60	69	76	76	66	53	38	22	49	22
				Souti	HERN TA	AEBAEK A	and Sob	AEK RAN	IGES					
Hoeyang	16	21	33	47	57	66	73	73	63	51	38	23	47	24
Chongson	22	26	37	50	60	68	75	76	66	53	41	28	50	23
					Isl	AND AP	PROACHI	3S						
Ullung-do	35	36	42	52	60	67	75	77	70	60	50	40	. 55	10
Izuhara	41	41	47	55	62	68	76	78	72	63	53	44	58	19 30
Cheju	40	41	46	55	62	69	78	79	72	62	53	45	59	19
Mara-do	42	43	48	55	61	68	76	80	74	67	56	48	60	23

 $\label{eq:table V-24} \mbox{MEAN DAILY MAXIMUM TEMPERATURE ($^\circ$F.)}$

STATION	J	AN	FEB	MAR	Apr	May	Jun	JUL	Aug	SEP	OCT	Nov	DEC	Ann	YRS REC
					E	ast Coa	st Lowi	ANDS AI	ND HILLS						
Unggi	2	22	28	37	50	58	66	73	77	70	58	41	27	51	15
Songjin	3	1	33	41	53	60	68	75	78	72	62	48	35	55	24
Hamhung	3	4	37 .	45	60	69	77	82	82	75	66	50	38	60	24 16
Wonsan	3	4	36	45	59	69	75	80	81	74	65	51	38	59	
Kosong	3	7	38	46	61	67	75	81	83	75	68	54	42	61	29
Kangnung	3	8	40	49	62	70	78	83	84	76	68	56	44	62	6
P'ohang-dong	4	1	44	51	63	69	75	83	84	76	68	56	44	62	18 7
					South	Coast I	OWLANI	os. Hills	S AND ISI	ANDS					•
Pusan	4	4	45	53	62	69 .	25	81	85	78	70	59	47		
Taegu	3	9	42	52	65	74	82	86	88	79	70	56	47	64	29
Sunch'on		0	44	53	66	74	80	85	88	80	70 72	57	42	65	22
Mokp'o	4	2	43	50	62	70	77	83	86	79	72 70		45	65	11
								-		79	70	57	46	64	22
						WESTERN	1 LOWLA	NDS ANI	HILLS						
Chonju		9	43	52	65	74	81	86	88	79	70	56	43	65	8
Kunsan	-	6	40	47	61	70	78	83	86	78	68	54	41	62	12
Ch'ongju		3	38	48	64	73	81	85	87	78	68	52	39	62	12
Inch'on	3		36	45	58	67	76	81	84	76	66	51	37	59	30
Kyongsong	3		38	47	62	72	80	84	86	78	67	51	36	61	18
Haeju	3		36	44	57	69	76	81	84	76	66	50	36	59	13
P'yongyang	2	7	32	44	60	70	80	84	85	76	65	47	31	58	22
						Low	ER AMN	ok Vali	.EY						
Yongamp'o	2	5	30	41	55	66	74	80	83	74	63	44	20	5.5	2.4
Sinuiju	2	4	31	43	59	71	79	83	89	75	65	42	29 29	55 57	24 6
						Norther	N KORE	AN HICE	-		,	12	2))/	b
Musan	. 1	R	28	38	56	66	78	84		(0					
Chunggangjin	1		21	37	. 57	70	79		83	62	60	39	23	54	10
Hyesanjin	1		21	35	54	67	79 76	81	83	72	58	36	16	52	20
Kanggye	1		25	39	58	67 71	76 80	83	83	71	57	35	16	51	16
Ch'osan	1		24	39	59	71		85	84	72	61	39	22	54	7
P'ungsan	1		23	33	50	61	81	86	86	73	61	39	23	55	12
i ungam	7	U	29	23	טכ	61	70	76	76	64	54	35	20	48	7

1 480 7															
						Tai	BLE V - 24	Contin							Yrs
STATION	A14.7	JAN	. FEB	MAR	APR	MAY	Jun	Jul	Aug	SEP	a≠ QCT	Nov	DEC	Ann	REC
				/0			HERN TAE	i i		76	66	44	20	50	10 . 7
Huich'on Koksan	* 1	;;25 ;30	⊹32 ∴36	42 47	: 59 : 63	70 71	80 80	85 84	- 85 - 86	. 75 . 76	66	44 49	34	58	10
KOKSan	1	٥ڔ ,	1350	:17			AEBAEK A						•		(,,
Lloonana		, 27	-33	42	:58	. HEKIN ; 1	76	80	81	. 72	63	47	≈ 33	57	,: 15 ::A
Hoeyang Chongson		31	36	46	62	170	79	83	84	74	64	50	36		10.:
- 17 0			23		1.21	i.	LAND APP	RÖÄCH	ES	6.1	15	į	1		i garas d
Ullung-do		41	42	48	60	66	73	80	84	76	.68	57	46	62	1759,000.24 6.03,000.00
Izuhara	4 :	49 45	.49	. 55	63	71	76 76	82 84	86 86	79 78	.71 69	62	52 51	66 65	19
Cheju		45	47	53	62	70		1 20 5011		70	09	00)1		. 12
1.1	£ **	31	fic.	e)c'	1.3	< c5	75	Ac)	. ev	141) é	64	1.1	- :	norbroti
i, i	\dot{c}	V.		8.4	de t	e 3 °	17	(2c)	() _t ;	19	1.6	21.	θĺ		koksu
					1947,247	7. A 234	ack dea.	3 [†] A4F17	. C. Sisella	ERK					
1.1	5.1	11.	111	1.1	243	1.5	£1,	:);)	. • *	1.8	. 7	11,	01		mb.yadi
	1.1	81	1.1	± **	1314	. 5"	TABLE V	V - 25	13.1		5.*		1.0		eseguarni. P
				λ	MEAN T	DAILY N	MINIMUM	Action 2	ERATUI	RE (°F.))				
**		<u></u> {}1	434	\$443	(F.				1.0		i	Nov	DEC		Yrs Rec
Station	\$50 550	JAN	FEB	MAR	Apr	MAY	Jun	JUL	AUG	SEP	OCT	INOV	DEC	ANN	KEC
	(k)	834-	i I I	\(\delta\)	1.7	Eașt Co 43	AST LOWL 52	ands a 62	nd _i Hills 65	54	8. 41	37	14	36	ub-ani/a
Unggi		8 13	13 16	22 26	34 36	45	54	64	66	56	$\begin{array}{c} 41 \\ 44 \end{array}$	27 31	14 18	36, 39	24
Songjin Hamhung		9	14	25	36	47	57	65	67	56	43	29	16	39	16
Wonsan		18	20	29	40	50	59 60	67 69	68 71	58 61	47 48	34 36	23 24	43	29 6
Kosong Kangnung		18 22	21 24	30 32	42 43	51 51	60	69	69	60	49	38	28	46	18
P'ohang-d	-	24	27	35	45	51	58	68	70	62	48	38	28	46	7 -
	_				South	н Солст	LOWLAND	os, HIL)	s and Is	LANDS	A				
Pusan		29	30	27	47	54	62	70	73	65	54	43	33	50	29
Taegu	44.5	, ,21	24	32	43	52	62	71 70	7.2 72	62 63	::/ i47 52	· · · 35 41	1.7.25 29	45 48	11
Sunch'on Mokp'o		27 29	29 29	35 35	45 45	54 - 14154	62 63	71	$\frac{72}{73}$	66	54	42	32	50	22
MOKPO	1.4		1	75.1	C_{3}		RN LOWLA	NDS AT		14:	7,4	514	77 17		i reggal i Augustus
Chonju	6. v	22	24	31	42	53	61	71	72	61	47	36	26	45	8
Kunsan	12.4	22	26	32	, 42	1,52	61	71	(×72	61	48	38	: 27	46	12 /
Ch'ongju		14	18	;; 27	38	48	: 58 : 61	68	69 :: 71	+ 58 - 61	⊕42 ⊕50	⊹30 ⇔36	20 24	41 45	د 12 .5 دا 30 د میں
Inch'on Kyongson	()	19 15	22	31 29	42 41	√.52 ,∴50	: 61	69	71	59	45	32	19		18
Haeju	ug 🧠	. 15	20	29	41	51	60	69	71	60	48	34	22	43	13
P'yongyar	ng	8	14	26	38	50	59	68	68	57	43	29	14	40	22
6.1 74.	# 3 W	i in	ċ.	0.	415		OWER AMN					1,1	44.14		anos i
Yongamp	o'o , ,	8	12, 12	25	38	:::50	60 60	68	.68 -: 70	56 56	44	28 26	13 13	39 39	24
Sinuiju	195	6	11	⊕ 25	⊕,39	51				-		20		37	
		-	2	16	22	. ,	iern Kori 53	EAN HI	GHLANDS 61	47	34	18	⇔ 3	30	10
Musan Chunggai	naiin	-, 5 -, 20	2 ہن <u>-</u> 11 ہن	, 16 ,12	:32 :32	42 44	: 54	64	62	47	32	16	 9	27	20
Hyesanjir	0,	 19	 12	∞ , 7	28	38	48	::57	-56	41	28	9	11	23	16
Kanggye		16	 8	14	32	43	55	65	- 63 - 65	49 50	34	19 .::19	— 3 0	29 32	7 12
Ch'osan P'ungsan	1.1	—10 —11	17 2 17 7	16 8	3.34	47	+ 57 + 43	53	53	42	: .27	19	 5	23	7
1 ungsan	949 9441	10	1.6	(6)	oi\		THERN TA			0.5	F :	5.7	¥4.		or nyagasi 1
Huich'on		— 3		21	36		1116\7 56 35			52	38	24	6	34	10
Koksan		1		23	36	47	57	67	, ,68	55	: 40	0.28	10	37	10
e¥.	4.0	Ç14,		€ ¥		JTHERN	Таеваек	AND S	BAEK RA	ANGES	, (1.5	į ·		1251721284
Hoeyang		3		22	33	44	900 1 54 01	64	64	53	39	26	12	35	15
Chongson		. 13		- 26	. 39	48	57	. 66	a: .67	. 57	42	.:"31 -	#4 6 -	40	10 6 January
174		- : 1	63	234 ¹		- 1)	ISLAND AF	PROAC	HES	H.	1.7	1.7			1. 11,000
Ullung-d	o	131	31	36	46	54	61	71 71 72 0	74 73	. 66	55	45	_{.:} 36	51 51	6
Izuhara Chejir	∮ € . + € .	33	34	39 40	48 48	55 54	62 60	12/1 72	. 1\73 10 ⁷³	(, 67 () 66	55 55	, 45 , 47	36 40	52	30 19
Cheju	164	()5	, (50	1.0	10	54	-0\ 00	100	10/5	0.00	(27)	č'.**	0120		rechina .

TABLE V - 26

					1,000	Table V - 2	6					
vold	тже А'	VERAGE N	IUMBER C			PERATURE ON (5-YEA			TERVALS	AT TIME	OF:	
	DEC	Jan	FEB	Mar	Apr	May	Jun	Jul	Aug	SEP	ОСТ	Nov
						WONSAN			110	1:	1.9	
1800 -10-01 10-09 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 Total	10 19 19 10 6.8 1 17.9 10 4.2 0.2 0.11	0.1 0.6 0.6 72.1 12.5 9 0 10.1 0.0 0.1 0.0 31.0	0.1 1.8 1.2.4 1.1 12.6 0.00 1.2 0.00 0.2 0.17	0.1 1.4 18.2 7.7 0 3.3 0.1 0.3	2.7 10.0 10.5 5.4 1.4	1.6 11.8 7.9 7.5 2.2 2.2 20 1.1 1.0 31.0	4.0 4.0 11.9 10.5 3.2 0.4 30.0	0.3 7.4 12.4 7.8 3.1 31.0	3.1 17.9 8.4 1.6 31.0	1.3 13.4 14.8 0.5 30.0	0.3 2.6 18.3 8.8 1.0	1.2 9.1 11.8 7.4 0.5
10-01 00-09 10-19 20-29 30-39 40-49 50-59 60-69 70-79 (80-89	0.4 11.5 4.7 13.0 10.1 1.5 10.1 1.3 10.1 1.3 10.1 1.3 10.1 1.3 10.1 1.3	0.2 4.2 12.7 8.7 4.9 0.0 0.1 	0.9 10.0 11.8 5.5 £A3 0.1 £01 201 28.3	0.3 1.4 9.9 16.2 2.8 4.0 0.4 0.4 0.5 0.4 0.5 0.4 0.5 0.5 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	0.2 10.8 13.2 5.4 0.4 30.0	0.2 0.2 0.3 6.9 18.5 5.1 0.3	0.2 10.6 17.6 1.6 30.0	1.1 14.1 15.1 0 12 0.7 31.0	0.3 12.7 17.9 0.1 31.0	0.7 14.2 14.2 0.9	4.0 12.6 13.8 0.6	0.4 2.9 14.8 9.7 2.1 0.1
1800 00-09 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 Total	31	0.1 6.0 0.4 6.0 4.9 6.1 15.7 6.4 8.2 1.0 1.7 6.00 31.0	0.3 (1) 1.5 (2) 12.9 (1) 10.9 (1) 2.7 (1) 1	0.1 0.3 0.3 1: 4.1 14.5 11.3 1.0	0.1 3.1 20.8 6.0	PUSAN	0.1 11.1 18.7 0.1 30.0	() : (4.) (1.) (1.) (1.) (1.) (1.) (1.) (1.) (1	0.4 16.3 14.3 31.0	0.2 0.2 0.4 0.2 0.8 0.0	0.1 0.3 8.1 20.1 2.4	0.1 1.1 8.0 18.4 2.4
0600 —10-01 00-09 10-19 20-29 30-39 40-49 50-59 70-79 80-89	0.1 0.3 4.3 13.3 10.7 11.2 2.3 11.2 10.7	0.2 0.2 3.7 10.1 12.7 3.5 0.6 0.6 0.6 0.7 10.1 12.7 3.5 0.6	0.1 1.5 8.0 13.9 4.0 0.8 11.1 11.1 10.2 28.3	0.2 2.0 14.4 11.5 2.6 10.0 0.3 0.0 31.0	1.8 12.7 13.9 1.6	1.7 1.8.1 11.1 0.1 31.0	0.1 2.5 22.9 4.4 0.1 30.0	6.3 24.3 0.4	3.2 26.2 1.6	3.0 19.3 7.7	0.1 4.1 18.9 7.7 0.2	. 0.1 . 0.3 . 0.3 . 5.5 . 12.5 . 10.9 . 0.7
1900						MOKP'O						A 15
1800 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99	1.1 14.2 12.1 12.1 19.0 3.5 19.4 0.1 0.47 31.0	0.9 8.0 17.6 3.9 0.6 	4.5 16.9 5.7 1.2 0.7 0.0 0.0 	1.0 9.8 12.9 6.8 0.5	0.3 5.2 17.7 6.4 0.4	43 19.4 7.3 31.0	00 4.8 0.7 0.7 0.7	11	0.3 9.8 20.0 0.9	0.1 5.2 23.2 1.5	0.4 11.4 17.1 2.1	1.5 9.9 17.6 1.0

	CLIMA	TE	AND	WEATHER
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Confidential

rage v -)					LIMATE A	MIND WEA	LITEK				Conju	ieniiui
					Time	26 Comi						
	_	_	77	36		- 26 Contin		T		0		37
	DEC	Jan	FEB	MAR	APR MOK D'	MAY	Jun	Jul	Aug	SEP	ОСТ	Nov
0600					MOKP	O—Continu	ea .					
00-09	0.1	0.2	v									12.
10-19	0.2	2.5	0.8			-÷-						0.1
20-29	3.6	12.7	10.2	3.7	3.4			***			0.1	0.1 6.0
30-39 40-49	18.9 6.9	13.2 1.9	14.4 2.5	18.2 7.4	5.4 14.8	1.3	0.1			0.1	5.5	16.4
50-59	1.3	0.5	0.4	1.7	10.7	22.8	2.3			2.8	20.2	7.2
60-69		20 to 100 to			1.1	6.9	23.6	4.0	1.3	20.8	5.1	0.3
70-79			****				4.0	26.7	28.9	6.3	0.1	~
80-89						- -		0.3	0.8			
Total	31.0	31.0	28.3	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0
					KA	NGNUNG						
1800 00-09	*	0.2	0.1			:						
10-19	0.5	3.1	0.7									
20-29	4.4	11.1	6.9	0.9								0.1
30-39	16.3	14.2	18.4	13.3	1.0	4						4.6
40-49	9.0	2.1	1.8	10.5	6.7	0.1	1.4	0.7		0.7	1.8	12.9
50-59	0.8	0.3	0.4	5.8 0.5	13.8 6.3	7,8 11,4	1.4 11.0	0.1 4.0	1.9	0.7 13.0	17.9 9.9	11.7 0.7
. 60-69 70-79					2.0	10.1	12.7	12.7	17.2	16.0	1.3	0.7
80-89					0.2	1.6	4.8	10.5	10.1	0.3	0.1	
90-99							0.1	3.6	1.8	~~~		
100-109					A 10 10 M	+		0.1				
Total	31.0	31.0	28.3	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0
0600												
00-09		1.9	0.3									
10-19	2.3	8.6	5.2	1.0				****				0.1
20-29	7.9	10.0	11.9	6.6	0.2	0.2				'	1.6	1.3
30-39 40-49	16.1 4.7	9.3 1.1	10.3 0.6	16.6 5.6	7.8 12.6	0.2 4.3				0.4	8.8	10.7 13.2
50-59	1./	0.1	0.0	1.2	7.2	17.3	8.4	0.5	0.3	10.4	17.6	4.6
60-69					2.0	8.0	17.3	11.6	9.6	16.8	3.0	0.1
70-79					0.2	1.2	4.3	14.2	19.7	2.3		
80-89								4.7	1.4	0.1		
Total	31.0	31.0	28.3	31.0	30,0	31.0	30.0	31.0	31.0	30.0	31.0	30.0
					IJ	NCH'ON						
1800 10-01		0.1						Maria				
00-09		0.3	0.1			i 						,
10-19	1.6	7.4	2.2	0.1		i						
· 20-29	7.8	12.1	9.3	1.7		 						0.9
30-39	15.7	10.0	14.7	14.6	0.5	0.2	0.1			All Arms M	0.2 1.6	6.2 11.6
40-49 50-59	5.2 0.7	1.1	1.8 0.2	11.5 3.0	9.5 16.6	11.0	0.1				14.7	11.0
60-69	0.7			0.1	3.3	14.7	9.2	0.9	0.4	0.5	13.3	0.2
70-79					0.1	5.1	18.8	19.1	15.4	6.6	1.2	
80-89							1.6	10.9	13.8	22.2		
90-99			76-76 W W						0.1	1.4	0.7	
Total	31.0	31.0	28.5	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0
0600												
10-01		0.3				10.00 to 4		******				
00-09	0.6	3.7	0.7 7.2	0.1 1.2		!						0.4
10-19 20-29	5.1 11.9	12.5 8.8	13.6	1.2 7.4	A A							3.0
30-39	11.9	5.2	6.6	18.6	6.9	i				0.1	1.7	13.6
40-49	1.6	0.4	0.2	3.0	17.0	3.5				0.2	10.0	10.2
50-59	0.1	0.1		0.6	6.0	24.5	5.7	0.2		7.1	17.3	2.8
60-69				0.1	0.1	3.0	22.9	7.4	5.9	20.0	2.0	
70-79							1.4	23.3	24.9	2.6		
80-89	21.0	21.0	20.2	21.0	20.0	210	30.0	0.1	0.2	20.0	21 0	20.0
Total	31.0	31.0	28.3	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0

					•							
					TABLE V	I - 26 Contin	rued					
	DEC	Jan	FEB	Mar	Apr	MAY	Jun	Jul	Aug	SEP	OCT	Nov
						CHEJU						
1800			0.1									
0- 9		0.1	0.1			0.1						
10-19	0.2	0.1	0.2									
20-29	0.3	0.3	0.2							~~~		
30-39 40-40	3.3	15.9	12.0	4.8	1.0							0.2
40-49	17.7	11.9	12.0	13.1	1.8		*****		n relation			4.2
50-59 60-69	8.9	2.7	3.6	11.6	20.1	5.3				0.1	6.3	21.3
	0.8	0.1	0.2	1.5	7.2	19.7	8.4	0.9	0.1	4.0	21.2	4.3
70-79 80-89	****				0.9	5.7	20.3	12.5	10.9	23.1	3.5	****
90-99	/					0.2	1.2	16.4	20.0	2.8		
							0.1	1.2		***************************************	****	
Total	31.0	31.0	28.3	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0
0600						•	•					
10-19	0.1		0.1	0.1		F14.49			N TOWN			
20-29	0.1	1.5	0.9	0.6								0.1
30-39	9.1	20.4	18.0	12.9	1.8	0.1						0.8
40-49	15.8	7.5	7.8	12.4	11.8	2.2					2.4	11.9
50-59	5.3	1.4	1.5	4.7	13.8	20.7	4.3			3.5	17.7	15.5
60-69	0.6	0.2		0.2	2.4	7.0	18.6	3.0	2.9	15.7	10.3	1.7
70-79				0.1	0.2	1.0	6.6	25.2	25.8	10.6	0.6	1.7
80-89							0.5	2.8	2.3	0,2		
Total	31.0	31.0	28.3	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0
	5 -1	52.0	20.5	,,1.0	30.0	51.0	50.0	51.0	51.0	. 50.0	51.0	50.0
					C/	ONICIINI						
1800					30	ONGJIN						
10-01		0.1		7778			2704					
00-09	0.3	0.6	0.1						***			
10-19	2.9	9.2	3.2	0.1								0.2
20-29	11.2	12.8	15.8	4.8								1.4
30-39	15.1	8.1	8.6	21.0	5.4	0.1			****		0.5	11.0
40-49	1.5	0.2	0.6	4.5	18.4	8.2	0.7				3.6	11.7
50-59	·			.5	5.2	16.6	13.0	1.1		1.5	20.1	5.5
60-69	~			0.1	0.8	4.7	14.0	13.5	3.7	18.9	6.7	0.2
70-79	~				0.2	1.1	2.0	14.5	25.4	9.4	0.7	
80-89			*		0.2	0.2	0.3	1.8	1.8	0.2		
90-99						0.1		0.1	0.1	0.2		
Total	31.0	31.0	. 28.3	31.0	30.0	31.0	30.0	31.0	31.0	31.0	31.0	30.0
0600								-		•		
20-11		0.1										
10-01		0.5	** ***			TOTAL C		-				
00-09	0.7	5.7	2.7	0.2	0.1	****						****
10-19	8.7	14.2					***					
20-29	13.0	8.0	13.1 10.0	3.3	0.5			To decise will		10 10 10 10		1.1
30-39	8.2	2.1		13.6	0.5	1.7		****		0.1	0.2	4.8
40-49	0.1		2.5	13.1	17.5	1.7	1.0	0.1		0.1	5.1	17.4
5 0- 59	0.1	0.2		0.8	11.1	16.5	1.9	0.1		1.3	14.0	6.3
フローフラ	0.5	0.2			0.7	12.2	20.6	3.8	0.8	17.9	11.4	0.4
60.60												
60-69 70-79					0.1	0.5	7.2	19.3	18.6	10.3	0.3	
70-79			1 the set	W-1 20 W		0.1	0.3	7.8	11.6	0.4		
-			28.3									

	TABL	BV-27			
EVTDEME	THOTTECT	TELEDED	A TELL TO TE	(OF)	

				EAIRE	ME HIC	JHESI	LEMPER	CATURE	(°F.)					
STATION	JAN	FEB	Màr	Apr	MAY	Jun	Jul	Aug	SEP	Ост	Nov	DEC	Ann	YRS REC
				E	AST COA	ST LOW	LANDS A	ND HILLS	5				•	
Unggi	42	53	60	74	81	91	98	92	84	77	65	50	98	15
Songjin	50	49	66	82	86	89	100	92	89	77	72	55	100	24
Hamhung	55	55	74	88	91	97	101	98	93	84	77	56	101	16
Wonsan	54	58	76	88	99	101	103	100	94	87	76	64	103	29
Kosong	51	57	71	88.	91	94	97	96	86	85	77	58	97	6
Kangnung	62	63	78	88	93	96	99	99	92	84	79	63	99	18
P'ohang-dong	59	66	75	81	90	92	100	98	91	81	78	62	100	7

Page V - 34					CLIMA	.11. /1111	7 W L21	1111111						
					TAB	SLE V - 27	Contin	ued						Yrs
STATION	· Jan	FEB	Mar	Apr	May	Jun	Jul	Aug	SEP	OCT	Nov	DEC	Ann	REC
				SOUTH	COAST I	Lowland	s, Hill	s and Isi						
Pusan	65	64	69	78	84	92	94	96	90	80	75 70	67	96	29
Taegu	61	67	74	84	95	98	103	102	95	86	78	62	103	22
Sunch'on	56	67	72	82	86	92	96	98	94 91	84 84	76 78	66 66	98	11 26
Mokp'o	64	66	72	78	82	90	95	99	91	84	/0	00	79	20
						N LOWLA			02	02	81	62	99	7
Chonju	59	63	71	83	87 85	95 94	98 97	99 1 0 1	92 92	82 83	81	63	101	12
Kunsan	58	66 59	72 69	84 82	.85 .86	94 95	96	98	93	83	77	60	98	12
Ch'ongju Inch'on	56 55	60	71	81	88	92	96	98	90	83	72	58	98	30
Kyongsong	54	58	72	83	90	98	98	100	91	86	74	57	100	22
Haeju	54	56	64	78	85	93	94	99	92	79	71	59	99	13
P'yongyang	50	54	66	83	86	97	97	98	91	83	73	55	98	22
					Low	er Amno	ok Val	LEY						
Yongamp'o	45	49	59	78	82	94	95	95	89	80	68	54	95	.24
Sinuiju	42	50	64	81	86	92	95	97	90	78	68	51	97	6
						rn Kore								
Musan	43	54	76	81	87	97	102	98	89	78	77	52	102	10
Chunggangjin	40	47	64	82	88	96	98	100	91	79	71	43	100	16
Hyesanjin	36	47	66	81	91	95	100	99	88	75 78	69 68	41 47	100 99	16 7
Kanggye	42	49	65	85 84	87 89	98 98	99 100	97 99	87 89	78 82	71	48	100	12
Ch'osan	40 39	52 46	64 62	70	-80	86	90	94	77	67	67	42	94	7
P'ungsan	29	40	. 02	70				•	, ,	0,	Ψ,			
			/-	:01		HERN TA	BAEK K 199	ANGE 97	91	85	70	54	99	11
Huich'on Koksan	46 53	55 58	65 70	81 79	87 87	97 96	100	97 98	90	82	75 75	62	100	10
Noksan		70	70			-		-	-					٠.
			-			AEBAEK A				70	70	<i>C</i> 1	. 00	11
Hoeyang	52	52	67 70	78	84 87	93 94	98 95	96 99	88 90	79 80	70 74	61 55	. 98 . 99	11
Chongson	50	56	70	81		-	1		90	. 00	74))		•••
						LAND API						(0	05	,
Ullung-do	56	59	67	83	80	88	93	95	89	81	73	62	95 96	6 4 2
Izuhara	66	66	76	82	86	91 93	96 97	96 93	94 93	82 82	78 77	72 72	90	19
Cheju	70	73	75	86	86	99	21	93))		,,	, ,,		/
						TABLE	V - 28			· v				
				EXTR	EME LO	WEST T	EMPER	ATURE	(°F.)					Yrs
STATION	Jan	FEB	MAR	Apr	MAY	Jun	Jul	Aug	SEP	OCT	Nov	DEC	ANN	REC
				1	EAST COA	ast Lowl	ANDS A	ND HILL	s					
Unggi	—12	5	2	19	31	35	49	48	38	20	4	10	12	15
Songjin	—12	9	0	17	33	42	51	54	39	26	2	7	12	24
Hamhung	20	18	— 1	17	33	40	50	44	39	24	1	—15	20	16
Wonsan	 7	 3	4	24	34	45	53	52	39	29	8	4 4	— 7 — 7	29 6
Kosong	— 7	3	14	25	36	43	49	54 57	47 43	30 35	14 19	5	<u> </u>	18
Kangnung P'ohang-dong	$-\frac{4}{4}$	4 7	11 19	26 33	36 38	43 43	52 51	54	42	33	24	10	4	7
r onlang-dong	4	,	1.7		-	Lowlani		-		,,,				
Pusan	7	11	19	29	42	LOWLANI 49	57 : 57	S AND 18	49	36	26	10	7	29
Taegu	$-\overset{\prime}{4}$	5	12	21	37	46	52	59	45	29	16	5	_ 4	22
Sunch'on	3	4	15	28	40	48	54	61	46	35	23	11	3	11
Mokp'o	6	10	21	30	42	54	59	63	47	38	23	12	6	26
					WESTER	n Lowla	NDS AN	D HILLS	1					
Chonju	4	5	19	26	41	48	60	61	42	27	17	7	4	8
Kunsan	— ²	8	8	28	36	19	59	- 53	41	30	18	0	_ 2	11
Ch'ongju	—18	_ 4	9	23	35	40	53	57	39	25	14	 6	18	13
Inch'on	— 6	— 1	7	28	38	48	57	60	42	30	13	— <u>1</u>	<u> </u>	30 33
Kyongsong	— <u>8</u>	3	7	25	36 30	49	55	58	38	25	11 12	—10 0	—10 — 5	22 13
Haeju	— 5	10	4	24 24	39 35	46 45	53 54	57 56	42 37	27 23	0	<u>—12</u>	—) —19	22
P'yongyang	—19	—10°	— 2	24	35	4))4	טכ	21	23	v	12		

						•								
					TABL	E V - 28	Continu	ed			•			
STATION	Jan	FEB	Mar	Apr	MAY	Jun	Jui.	Aug	SEP	Ост	Nov	DEC	Ann	YRS RCD
					Lowe	R AMNO	ok Vall	EY		•				
Yongamp'o	20	15	0	23	32	48	56	52	35	24	2	 16	20	24
Sinuiju	—17	— 8	0	15	40	45	54	53	40	24	— 2	—15	—17	6
				N	ortheri	N Korez	AN HIGI	HLANDS						
Musan	29	20	17	6	28	35	45	36	21	10	10	22	29	10
Chunggangjin	-43	39	24	10	27	37	48	40	25	12	-23	39	-43	16
Hyesanjin	-44	42	 21	1	21	31	41	32	18	3	-25	-40	-44	17
Kanggye	43	33	22	17	29	42	48	44	30	15	 16	3 6	43	7
Ch'osan	33	29	12	15	26	41	52	45	29	15	8	34	34	12
P'ungsan	4 0	—29	20	4	20	29	38	33	24	5	17	26	4 0	7
					Northe	RN TAE	BAEK R	ANGE						
Huich'on	33	20	— 5	10	30	35	53	47	31	14	 7	3 1	33	11
Koksan	 26	—13	— 2	17	30	44	52	49	36	20	3	18	26	10
				South	iern Tai	BAEK A	ND SOBA	EK RAN	GES					
Hoeyang	23	22	— 4	14	20	35	44	45	32	7	— 2	23	23	11
Chongson	 17	 6	— 1	21	34	36	52	51	41	23	9	8	<u>-17</u>	10
					ISLA	ND APP	ROACHE	s						
Ullung-do	12	16	23	33	41	47	60	67	54	43	31	19	12	6
Izuhara	18	16	23	31	41	43	56	56	48	33	27	20	16	42
Cheju	12	16	27	30	39	50	54	63	48	41	28	28	12	19
•				- '		-					_0		~-	-/

C. Humidity.

Tables V - 29 and V - 30 present the available data on relative humidity for Korea.

Table V - 29

				ME	AN REL	ATIVE 1	HUMID	ITY* (9	6)	*				
STATION	Jan	FEB	Mar	Apr	MAY	Jun	Jul	Aug	SEP	Ост	Nov	DEC	Ann	YRS REC
Unggi	50	52	55	62	75	83	88	83	71	61	54	49	65	15
Songjin	65	65	65	71	80	85	88	85	76	71	65	61	73	24
Wonsan	55	56	58	63	69	75	82	82	75	67	58	51	66	25
Kangnung	55	60	61	63	69	73	80	81	77	68	60	55	67	18
Pusan	51	52	57	67	72	78	83	78	73	65	59	52	66	75
Taegu	62	60	59	63	64	68	74	74	74	68	67	63	66	22
Mokp'o	71	70	70	75	77	82	86	82	78	73	72	72	76	25
Chonju	74	73	70	70	74	73	79	79	78	75	76	77	75	11
Inch'on	64	62	65	68	74	76	86	81	72	68	66	66	71	14
Kyongsong	68	64	62	65	69	71	80	76	74	71	70	67	70	22
P'yongyang	71	70	67	64	68	72	81	81	75	72	73	_ 71	72	20
Yongamp'o	71	70	68	70	74	81	87	84	78	75	70	70	75	24
Chunggangjin	81	76	68	62	66	73	81	83	81	73	73	79	75	20
Ch'osan	81	76	66	61	64	71	77	80	82	74	77	78	74	4
Izuhara	67	66	- 68	73	75	82	84	82	79	73	70	67	74	30
Cheju	70	71	68	76	76	79	81	82	80	71	70	71	75	10
* Mean of the 0600, 14	00 and 22	00 obser	vations.											

TABLE V - 30

STATION	Jan	FEB	MEAN Mar	RELATI Apr	VE HUMI May	DITY AT Jun	JUL	F OBSER\ Aug	ATION SEP	(%) Ост	Nov	DEC	Ann
	J					•	-		OLL	OCI	1404	DEC	211114
					PERIO	D OF RECO	DRD 1931-	1935					
Wonsan													
0200	57	63	61	65	75	88	91	90	84	69	64	64	72
0600	58	64	63	67	76	88	92	91	86	70	65	63	74
1000	54	57	53	55	61	75	81	81	71	53	60	58	64
1400	44	48	47	49	56	71	77	76	64	50	53	51	57
1800	51	.56	53	54	62	75	80	80	72	62	60	58	63
2200	54	60	59	62	72	86	88	88	81	66	62	62	70

							i.						
					TAI	BLE V - 30	Continue	d					
STATION	Jan	FEB	MAR	Apr	MAY	Jun	JUL	Aug	SEP	ОСТ	Nov	DEC	Ann
					PERIOR	of Reco	ORD 1931-1	.935					
Mokp'o													
0200	75	76	76	83	85	89	92	91	.86	80	78	76	82
0600	78	76	78	85	88	91	93	93	88	82	80	78	84
1000	67	65	64	67	68	74	80	77	- 70	65	67	69	69
1400	60	56	53	58	59	65	72	69	60	53	56	60	60
1800	69	66	61	64	64	71	. 78	76	70	66	68	70	69
2200	73	73	73	78	79	85	90	88	81	77	74	74	. 79
					PERIOI	of Reco	ORD 1931-1	1935					
Inch'on													
0200	70	72	74	77	83	89	92	90	82	75	74	74	79
0600	7.2	73	73	78	85	91	93	92	85	77	75	76	81
1000	65	63	61	63	70	77	83	81	70	64	66	67	69
1400	56	54	52	. 55	60	68	75	73	60	52	56	58	60
1800	63	62	60	62	64	72	77	77	67	63	65	67	67
. 2200	68	69	71	74	76	84	89	87	79	71	70	72	76
					Perioi	of Reco	ORD 1931-1	1935					
Chunggangjin													
0200	88	88	79	76	84	95	98	98	98	91	84	87	89
0600	91	91	84	82	87	94	98	98	98	93	85	89	91
1000	88	83	65	56	61	75	80	82	80	73	76	84	75
1400	66	56	44	39	45	57	68	65	57	50	56	65	56
1800	72	58	45	41	47	62.	74	72	68	62	69	74	62
2200	85	77	68	63	69	84	93	95	93	82	80	84	81
					Perio	D OF RECO	ORD 1931-	1935					
Cheju													
0200	71	73	71	-82	80	83	87	87	89	76	75	73	79
0600	72	74	73	83	. 81	84	86	89	90	77	75 *	75	80
1000	69	63	64	70	69	75	76	77	76	63	65	69	70
1400	66	64	60	68	66	71	73	7.4	74	60	63	66	67
1800	68	67	63	71	68	75	. 77	77	78	67	69	69	71
2200	70	72	69	81	79	83	85	86	87	74	73	73	78

D. Surface winds.

Tables V - 31 to V - 37 give significant statistics on surface winds at selected stations in Korea.

TABLE V - 31

	MEAN WIND SPEED (M.P.H.) YRS														
Station	Jan	FEB	Mar	Apr	MAY	Jun	Jul	Aug	SEP	Ост	Nov	DEC	Ann	REC	
Unggi	14.5	13.0	11.6	11.9	8.3	7.2	6.5	6.7	7.8	10.1	11.6	14.1	10.3	15	
Songjin	6.7	6.7	7.2	6.7	5.8	4.7	4.7	4.9	6.0	6.3	6.7	6.9	6.0	24	
Wonsan	5.8	5.6	5.8	5.8	5.4	4.9	4.9	4.9	4.9	5.1	5.8	6.0	5.4	25	
Kangnung	10.5	8.7	8.1	7.6	6.3	4.7	4.5	4.3	4.9	6.5	8.1	10.1	6.9	18	
Pusan	9.8	9.6	8.7	7.6	6.5	5.8	6.7	6.5	6.9	6.9	8.1	9.6	7.7	25	
Taegu	5.1	5.4	5.8	5.6	5.1	4.7	4.9	4.7	4.0	3.6	4.3	4.9	4.9	22	
Mokp'o	12.1	12.3	12.3	10.1	8.9	7.4	8.9	7.8	8.5	8.5	10.5	11.4	9.8	25	
Chonju	4.0	4.0	4.7	4.3	3.8	3.6	3.6	2.9	2.9	2,7	3.4	3.6	3.6	20	
Inch'on	10.4	10.8	11.8	10.7	9.6	7.9	9.1	8.5	8.5	9.3	10.8	10.6	9.8	14	
Kyongsong	3.8	4.5	5.1	4.9	4.7	4.5	4.5	4.0	3.6	2.9	3.6	3.6	4.1	22	
P'yongyang	4.0	4.7	6.5	5.8	5.1	4.3	4.5	3.6	3.4	3.6	4.5	4.0	4.5	22	
Yongamp'o	7.6	7.2	7.8	8.3	8.5	7.4	7.2	6.0	6.5	7.2	7.6	7.4	7.4	24	
Sinuiju	6.9	7.6	7.2	7.4	6.7	5.4	5.1	5.1	5.6	6.3	7.6	7.6	6.5	5	
Chunggangjin	1.6	2.2	3.6	4.9	4.7	4.0	3.1	2.7	2.7	3.4	3.1	2.2	3.2	15	
Ch'osan	1.1	1.3	2.5	2.9	2.7	1.8	1.6	1.3	1.3	1.6	1.6	1.3	1.8	4	
Cheju	15.2	13.9	13.4	10.3	8.9	8.9	8.9	9.4	9.6	11.0	11.6	14.1	11.2	10	

TABLE V - 32

PERCENTAGE FREQUENCY OF SURFACE WIND DIRECTIONS * STATION Jan FEB May Jun JUL Aug SEP Nov DEC Ann OCT Period of Record 1916-1935 P'yongyang N NE E SE S sww NW Calm PERIOD OF RECORD 1906-1920 Yongamp'o N NE E SE S sw 4 W NWCalm . 2 Period of Record 1916-1935 Chunggangjin N NE E SE 5. S swW

* Mean	οf	2	observations	daily.

Period of Record 1919-1923

NW

Calm

Ch osan * *

N

Е

SE

S

sw

W

NW

Calm

NE

^{**} Mean of 6 observations daily.

	DEDC	ENTAGE I	FREQUENC	Y OF SUR	TABLE V		CTIONS /	AT TIME	OF OBSEI	RVATION	r ·	
	JAN	FEB	MAR	APR	MAY	Jun	Jul	AUG	SEP	Ост	Nov	DEC
	J.				SONG							
1800 L.C.T.				10.1			25.5	240	22.4	22.2	18.4	20.4
CALM	18.1 0.3	22.3 2.5	17.9 3.5	18.1 2.3	25.1 2.3	32.1 1.4	35.5 2.2	34.8 1.9	$\frac{23.4}{2.4}$	22.2 1.4	2.0	2.3
NNE NE	2.3	2.5	2.6	3.3	2.9	1.0	2.6	1.9	2.6	0.7	1.0	0.7
ENE	1.0	2.1	1.6	1.0	1.3	1.0	1.6	1.3	3.3	2.3	1.7	2.0
E	2.2	2.5	3.3	0.7	0.7	3.4	1.6	0.6	3.0	0.3 1.0	1.3 0.7	2.3 1.3
ESE	1.3	1.1 5.0	0.6 4.5	0.3 3.3	1.6 3.6	1.4 4.7	1.3 7.4	1.6 3.9	1.7 5.7	2.0	3.0	2.6
SE SSE	2.3 4.2	6.8	15.7	17.7	12.0	16.6	14.8	14.0	11.1	2.9	3.7	2.3
S	7.1	22.7	22.2	31.8	33.3	28.2	24.9	25.8	29.2	28.5	9.7	4.9
ssw	5.5	9.3	7.8	8.4	5.5	1.4	3.4	1.6	5.6	14.2	10.8	6,9 2.3
SW	4.5 1.0	2.5 0.4	0.9 0.9	1,4 1.3	1.0 0.0	0.3	0.3 0.0	0.3 0.0	1.3 0.0	2.0 1.6	5.7 1.6	2.0
WSW W	4.8	0.7	0.3	0.6	0.6	0.3	0.0	1.0	0.3	3.3	2.3	2.0
WNW	4.2	1.8	1.6	0.3	1.3	1.4	0.3	0.3	0.7	2.3	5.7	3.9
NW	19.1	6.1	5.8	1.7	2.6	0.0	0.3	1.9	3.0	3.6	12.4	18.1
NNW	15.7 6.4	6.8 4.9	7.2 3.6	1.7 6.1	2.3 3.9	2.0 4.8	1.9 1.9	2.9 6.2	3.7 3.0	7.8 3.9	12.7 7.3	18.8 7.2
N	0.4	4.7	5.0	0.1	5.7	1.0	1.,	0.2.	5.0	J.,	,	
0600 L.C.T.						: .						
CALM	17.1	19.4	35.2	48.2	51.0	64.7	70.3	55.5	36.7	34.0	26.8	14.6
NNE	1.3	1.4	2.7 1.7	3.0 3.3	2.3 1.6	1.0 1.0	2:6 0.3	0.0 0.3	0.7 0.3	3.3 1.2	1.0 1.4	1.0 0.7
NE ENE	0.3 0.3	0.7 0.7	1.7	0.7	0.6	0.0	0.6	1.6	0.3	0.9	0.6	1.0
E	0.3	0.4	0.3	0.7	0.6	1.3	1.0	0.6	0.0	0.3	0.3	0.3
ESE	0.0	0.4	0.3	0.3	1.0	0.7	0.6	0.0	0.3	0.0	0.7	1.0
SE SSE	0.6 0.0	0.0 0.4	0.6 0.3	0.7 2.3	2.3 4.9	0.7 2.0	1.6 1.3	0.6 0.9	0.0 0.6	0.6 0.0	1.3 0.7	1.0 0.7
S	0.6	0.7	2.0	5.0	7.4	8.4	3.5	2.5	1.3	1.3	1.7	0.7
SSW	0.9	1.1	2.3	2.4	0.6	1.7	0.6	1.0	0.6	1.6	2.0	0.6
SW	0.3	0.7	0.7	0.7	1.6	0.7	0.3 0.0	0.3 0.6	0.6 1.0	1.9 0.6	1.3 0.0	0.3 0.7
WSW W	0.0 2.3	1.1 0.7	0.0 2.9	0.7 3.3	1.0 1.3	0.0	1.3	1.6	1.0	3.2	2.0	1.7
WNW	3.9	5.0	5.5	2.6	1.0	1.0	1.3	2.4	4.3	3.9	4.3.	6.6
NW	39.7	37.7	23.0	9.7	9.5	7.1	5.3	16.4	29.4	27.1	27.7	30.7
NNW	2 4 .7 7.7	21.1 8.5	15.3 6.2	9.7 6.7	5.2 8.1	5.0 4.0	6.9 2.5	9.4 6.3	15.1 7.8	12.0 8.1	20.2 8.0	26.5 12.9
N	7.7	0.0	0.2	0.7	0.1	1.0	2.0	0.5		0,1	0.0	
						1						
1800 L.C.T.					WON	SAN						
CALM	23.6	34.3	27.8	24.5	21.4	18.3	28.1	33.6	26.0	28.7	27.0	30.2
NNE	0.6	0.7	3.6	5.0	4.9	7.4	4.8	4.8	1.3	0.6	0.3	0.6
NE	0.0	0.7	2.9	4.6	9.6	14.5	8.1	10.0	4.6	2.6	0.7	0.7
ENE	1.0	2.4	6.2 6.2	5.7 6.4	5.1 6.8	15.3 12.6	17.3 11.4	13.5 13.4	8.6 16.8	1.9 4.2	0.3 0.7	1.0 1.0
E ESE	1.9 1.0	2.8 1.4	2.6	1.7	3.2	1.0	1.6	1.9	3.0	1.0	1.7	1.3
SE	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.3
SSE	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.3	0.0	0.0	0.0
S	0.0	$1.1 \\ 1.4$	1.0 1.6	0.3 4.4	1.3 2.2	0.0 1.3	1.0 3.8	0.3 1.3	1.3 1.7	0.3 2.6	2.3 3.3	0.7 2.3
SSW SW	2.3 5.5	4.6	2.9	7.0	7.4	2.7	5.8	4.8	7.0	11.9	13.3	9.8
wsw	21.6	15.5	15.0	7.4	8.2	4.7	3.5	6.1	10.4	17.7	15.0	18.1
W	35.8	24.4	19.7	13.7	12.7	8.7 1.7	5.5	5.2	12.0	17.2 8 1	25.7	.23.9 6.5
WNW	4.5 1.3	7.4 1.4	5.9 2.0	5.7 4. 3	3.9 3.6	1.7 2.0	1.0 2.3	1.0 1.0	2.3 2.7	8.1 1.6	5.3 2.7	0.7
NW NNW	0.6	0.4	0.7	5.0	4.2	3.4	1.3	0.6	0.3	0.6	1.0	1.3
N	0.3	1.1	1.6	4.3	5.5	6.1	4.2	2.5	1.0	1.0	0.7	1.6

				1	Table V - 3	3 Continue	ed					
	Jan	FEB	Mar	Apr	MAY	Jun	Jul	Aug	SEP	OCT	Nov	DEC
				7	WONSAN-	–Continue	d					
0600 L.C.T.				460	# 0.0					2/2	21.6	240
CALM	27.7 0.3	35.3 0.4	38.2 0.6	46.0 1.3	50.0 1.6	59.6 2.0	55.7 3.6	50.5 0.9	33.3 0.0	34.2 0.6	31.4 0.3	34.8 0.3
NNE NE	0.3	0.4	0.6	1.3	1.0	2.4	3.2	4.3	0.6	0.0	0.3	0.6
ENE	0.3	1.8	2.2	0.3	1.6	2.0	3.9	4.2	3.1	0.3	0.6	2.0
E	1.7	2.5	2.3	1.7	1.3	2.4	6.1	2.6	2.3	1.2	1.4	2.0
ESE	0.7	0.0	0.6	0.0	0.3	1.3	0.0	0.0	1.7	0.6	1.7	1.6
SE	0.0	0.0	0.3	0.3	0.6	0.0	0.3	0.0	0.0	0.0	0.0	0.0
SSE S	0.0 0.7	0.0 0.7	0.0 1.3	0.3 1.3	0.0 0.0	0.0 0.3	0.0 0.3	0.0 0.3	0.0	0.3 1.3	0.3 1.7	0.0 1.0
SSW	1.0	2.1	2.2	4.4	3.6	1.7	2.6	2.6	3.7	6.5	5.0	3.3
SW	14.6	16.5	13.6	10.7	12.4	10.8	12.1	13.9	28.1	26.2	20.1	11.9
wsw	27.9	19.0	19.2	16.4	15.0	10.9	9.1	10.7	17.6	16.5	21.1	16.0
W	19.5	16.2	14.7	9.0	9.4	3.7	1.6	6.1	6.3	9.1	10.7	19.5
WNW	3.9	2.2	2.6	3.7	1.9	1.0	0.3	1.3	1.7	1.6	3.4	4.0
NW	0.7	0.4	0.3	1.3	0.0	1.3	0.6	1.3	1.0	1.6	1.7	1.3
NNW N	0.7 0.0	1.1 1.1	0.3 1.0	0.7 1.3	0.3 1.0	0.3 0.3	0.0 0.6	0.3 1.0	0.3 0.3	0.0	0.0 0.3	0.7 1.0
14	0.0	1.1	1.0	1.)	1.0	0.5	0.0	1.0	0.5	0.0	0.5	
1800 L.C.T.					KANGI	NUNG						
CALM	29.1	34.4	30.6	25.0	40.6	52.6	58.5	61.7	61.3	62.0	34.0	29.2
NNE	0.0	1.1	2.6	3.3	3.6	3.4	2.9	1.0	1.0	0.6	0.3	0.6
NE	0.0	2.5	1.0	3.7	2.9	0.0	1.0	1.3	0.7	0.3	1.0	0.0
ENE	0.0	1.1	2.3	2.3	3.2	1.4	0.6	1.6	0.0	0.0	0.7	0.0
E	0.3	1.1	8.8	10.7	5.9 4.5	7.1	5.2	5.2 1.6	3.3 3.3	1.6	0.0 0.7	0.7 0.0
ESE SE	0.3 0.9	1.1 1.1	4.6 2.0	11.0 2.0	4.5 1.9	3.4 3.1	2.3 1.0	0.3	2.0	2.6 1.0	1.3	0.0
SSE	1.9	0.0	0.0	0.0	0.3	0.3	0.3	0.0	0.3	0.3	0.7	0.6
S	0.6	0.0	0.0	1.0	1.0	0.3	0.3	0.0	0.0	0.3	1.0	1.0
SSW	0.3	1.8	0.3	2.0	1.9	0.3	2.0	1.0	0.7	1.0	1.3	1.6
SW	18.6	9.9	9.4	8.3	7.1	3.8	6.2	3.9	2.6	6.1	13.0	17.7
WSW	25.1	20.0	15.8 6,9	8.4	8.2 6.1	3.7 3.1	1.3 5.9	2.6 3.2	5.3 3.8	7.5 7.8	24.4 13.0	20.7 11.5
W WNW	12.3 2.3	7.5 2.5	2.3	7.3 0.0	0.3	0.3	0.9	0.3	0.7	1.6	0.7	2.0
NW	4.8	6.3	3.9	2.7	1.3	3.1	2.3	2.6	2.7	3.8	4.3	6.9
NNW	1.6	6.4	4.2	2.6	3.6	5.1	3.2	5.5	4.3	1.6	2.3	5.2
N	1.9	3.2	5.3	9.7	7.6	9.0	6.1	8.2	8.0	1.9	1.3	2.3
			•									
0600 L.C.T.		21.2	20. (2/2	45 1	(0.1	(0.2	5 0 /	22.2	120	1/1	17/
CALM	11.3	21.3	28.6	34.3	45.1	60.1 0.7	62.3	59.6 0.3	33.3 2.4	13.2 0.0	16.1 0.3	17.6 0.6
NNE NE	0.0	$0.4 \\ 1.1$	0.0 0.6	0.3 0.3	0.3 0.7	0.7	0.0	0.5	0.3	1.3	0.3	0.6
ENE	0.0	0.0	0.6	0.3	0.0	0.3	0.3	0.6	0.0	0.3	0.7	0.0
E	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.0
ESE	0.3	0.0	0:1	0.3	0.3	0.0	0.0	0.0	1.3	0.0	0.0	0.0
SE	0.6	0.7	0.3	0.0	0.3	0.3	0.0	0.3	0.3	0.3	0.0	0.0
SSE	2.0	0.0	0.0	0.3	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.3
S SSW	0.0 0.0	0.7 0.4	0.0 0.9	0.3 2.3	0.3 1.4	0.3 1.0	0.3 3.2	0.6 1.3	0.0 2.3	0.6 2.2	1.0 1.7	0.3 1.7
SW SW	23.0	18.5	15.7	16.6	$1.4 \\ 14.1$	10.6	11.0	10.0	16.0	19.7	25.4	24.2
wsw	38.5	30.2	29.2	25.9	18.8	10.8	9.3	15.7	22.8	35.0	34.5	35.6
W	20.9	16.3	12.4	8.3	9.6	6.4	6.5	4.7	16.7	22.2	13.0	15.2
WNW	0.6	1.4	2.6	1.0	1.6	0.7	1.0	0.9	0.7	1.3	1.7	1.6
NW	1.6	4.3	5.2	3.3	1.3	2.4	1.6	2.2	1.6	1.3	2.3	2.0
NNW	0.6 0.6	2.2 2.5	1.6 1.9	3.6 2.6	3.9 2.3	2.4 3.7	2.3 1.9	1.9 1.3	1.3 0.7	1.0 1.3	2.0 0.7	0.3
N	0.0	۷.)	1.7	۷.0	2.5	5.1	エ・ブ	1.0	0.7	1.5	U./	0.3

				T	ABLE V - 33	Continue	d						
(A) * q	Jan	FEB	MAR	Apr	May	Jun	Jul.	Aug	SEP	Ост	Nov	DEC	
	,,,,,,	122			PUSA		702	1100	021	001			
1800 L.C.T.					1 0011								
CALM	18.5	17.4	6.5	9.1	11.8	11.8	10.3	11.6	16.7	31.9	29.6	17.9	
NNE	4.9	7.7	6.9	10.5	2.6	5.0	3.5	7.1	16.3	13.3	7.7	9.6	
NE	1.0	2.9	5.2	5.5	4.2	7.4	7.1	4.5	8.0	3.9	3.0	2.3	
ENE E	1.0 0.0	$0.4 \\ 2.1$	2.9 6.1	3.7 12.8	5.5 9.7	8.4 13.6	2.9 7.1	7.4 10.0	4.7 8.7	1.9 1.0	0.0	0.0 0.0	
ESE	0.6	1.1	4.8	5.0	6.8	6.8	3.9	6.8	1.3	0.3	0.0	0.3	
SE	0.3	0.4	2.3	3.7	4.5	7.4	5.2	4.8	1.0	0.6	0.0	0.0	
SSE	0.0	0.0	1.9	4.7	7.1	7.1	5.8	4.6	1.0	0.3	0.0	0.0	
S	0.0	0.0	6.1	6.4	8.8	9.8	14.3	13.4	2.3	0.6	0.7	0.0	
SSW SW	0.3 0.3	1.1 3.9	5.5 8.0	8.2 9.2	11.6 7.5	9.6 4.1	11.1 10.1	8.2 5.6	6.7 4.6	1.2 2.6	0.7 1.3	0.3 1 .0	
WSW	1.6	2.1	6.2	6.1	7.4 7.4	3.4	8.1	4.5	2.3	1.3	3.0	2.0	
w	6.8	6.0	11.0	5.8	5.5	3.0	6.1	5.2	4.0	6.1	10.7	7.6	
WNW	7.7	10.6	6.2	1.0	1.3	0.3	0.6	0.3	0.7	3.8	5.7	7.0	
NW	19.1	16.3	9.7	2.3	2.2	0.3	0.3	0.6	2.3	8.0	11.7	18.3	
NNW	25.0 12.9	17.0	5.2 5.5	0.6 5. 4	0.6 2.9	0.3	1.0 2.6	1.9 3.5	6.0	10.5	14.3	21.1 12.6	
N	12.9	11.0).)).4	2.9	1./	2,0	5.,)	13.4	12.7	11.6	12.0	
0600 L.C.T.													
CALM	14.5	18.5	20.4	31.8	46.9	46.5	33.4	46.2	36.8	35.6	28.9	16.1	
NNE	7.1	9.5	13.3	13.9	7.8	11.2	8.2	13.4	19.2	10.1	6.3	8.2	
NE ENE	3.5 0.0	2.2 0.7	2.3 0.6	3.7 2.0	1.6 1.6	3.4 2.0	3.6 1.0	$\frac{4.8}{1.0}$	1.6 0.3	0.3 0.0	0.6	0.3 0.0	
E	0.0	0.0	0.3	0.6	1.3	0.3	1.3	0.6	0.0	0.0	0.5	0.0	
ESE	0.3	0.7	0.0	0.3	0.6	1.0	0.3	1.0	0.3	0.3	0.3	0.3	
SE	0.6	0.4	0.0	1.0	0.3	0.6	0.6	0.6	0.7	0.3	0.3	0.3	
SSE	0.0	0.0	0.3	0.6	0.0	1.3	2.6	1.3	0.0	0.0	0.7	0.0	
S SSW	0.0 0.3	0.0	2.0 0.3	1.7 2.0	2.0 1.6	2.0	5.8 5.8	2.5 2.2	1.0 1.0	0.3 0.0	0.0	0.3 0.0	
SW	0.3	0.4	1.0	1.1	0.3	3.4	4.6	1.6	0.3	0.3	0.7	0.7	
wsw	0.6	1.8	1.3	3.0	4.5	2.4	5.5	5.3	2.6	0.9	2.3	1.3	
W	3.8	4.3	10.1	8.0	8.5	3.7	11.5	4.9	1.6	2.6	5.3	6.3	
WNW	4.9	8.1	4.5	3.0	2.9	2.0	5.2	1.9	1.0	3.5	6.0	8.2	
N W NNW	17.4 20.7	12.4 19.4	11.0 15.3	6.8 10.4	6.2 6.8	2.3 6.1	1.6 1.0	1.0 1.3	4.7 7.0	8.7 17.6	15.4 16.2	19.2 22.3	
N	26.0	21.6	17.3	10.1	7.1	9.8	8.0	10.4	21.9	19.5	16.1	16.5	
						,							
1000 T C#					MOK	PΌ							
1800 L.C.T.	5.0	4.3	6.6	6.7	6.5	0.0	8.7	12.2	7.2	0.2	10.6	0.5	
CALM NNE	5.8 4.2	4.5 1.4	0.3	1.0	0.9	9.8 0.7	0.3	12.2 1.0	7.3 4.0	8.2 2.9	10.6 3.5	8.5 4.9	
NE	0.6	1.1	2.9	0.7	0.6	0.7	0.9	0.6	1.6	0.6	1.4	1.0	
ENE	1.0	0.4	0.3	1.3	0.3	1.6	2.3	1.9	2.3	0.6	1.4	1.0	
E	0.3	1.1	0.9	0.3	1.0	1.3	1.9	1.0	1.7	0.3	0.3	0.3	
ESE	0.3	0.7 0.0	0.6	1.7	0.6	1.0	0.3	1.3	1.3	0.0	0.3	0.7	
SE SSE	0.3 1.3	1.5	1.3 2.6	0.7 5.0	1.2 6.8	1.7 8.4	1.9 8 .1	2.9 9.4	0.6 4.0	0.6 1.3	0.7 3.1	1.3 1.3	
S	1.9	3.6	3.8	8.9	8.5	12.1	26.5	14.4	4.0	4.5	4.5	2.0	
ssw	0.6	2.8	6.5	8.3	7.7	7.7	19.8	13.3	3.6	2.6	4.2	2.0	
sw	1.0	1.5	3.9	6.0	6.1	9.1	7.4	9.0	4.7	0.3	3.8	1.6	
WSW	0.0	0.4	0.0	1.3	3.6	6.7	3.9	2.3	2.7	0.9	0.7	0.0	
W WNW	0.0 0.0	0.0 0.4	1.6 1.6	1.0 0.7	2.9 3.9	3.0 2.0	0.6 1.6	1.0 1.3	0.3 0.7	1.0 0.3	0.3 0.7	0.0 0.7	
NW	4.8	2.8	7.1	10.7	16.6	14.0	8.4	7.1	8.7	6.2	3.1	0.7 4.9	
NNW	40.0	43.1	33.0	29.0	21.4	15.9	6.8	14.5	27.9	40.9	33.7	34.3	
N	37.9	34.9	27.0	16.7	11.4	4.3	2.6	6.8	24.6	28.8	27.7	35.5	

				•	ΓABLE V - 3	3 Continue	ed .					
	JAN	FEB	Mar	Apr	MAY	Jun	JUL	Aug	SEP	Ост	Nov	DEC
0600 L.C.T.					МОКР'О—	Continued						
CALM NNE NE ENE E ESE SSE SSW SW WSW W WNW NNW NNW N	21.6 11.0 4.2 0.3 1.3 0.0 0.3 1.0 0.9 0.9 0.6 0.0 0.0 0.0 2.5 21.5 33.9	21.7 5.3 2.8 2.2 1.1 0.4 0.7 1.1 1.4 0.4 0.0 0.0 0.7 0.4 2.2 24.1 35.5	23.0 3.9 3.5 1.6 0.6 2.9 0.6 2.5 3.8 3.6 0.0 0.0 1.0 3.5 23.1 25.8	31.3 1.3 1.0 3.0 0.7 1.0 2.0 7.1 8.0 4.0 2.3 0.7 0.7 0.6 3.0 19.4 13.9	35.5 1.6 2.9 1.9 1.0 0.6 1.0 4.9 9.1 3.8 2.2 1.0 0.3 1.0 4.2 17.0 12.0	47.1 2.7 4.7 2.4 0.7 0.6 0.7 6.5 8.7 6.1 1.0 0.0 0.0 0.3 9.4 7.1	35.6 0.3 2.6 1.6 1.3 1.0 2.6 6.2 22.8 12.0 2.2 0.6 0.3 1.0 1.9 4.2 3.8	38.9 2.2 2.3 3.9 5.2 2.3 1.6 5.8 9.4 9.1 3.9 0.6 0.0 0.0 1.6 5.8 7.4	38.9 6.7 6.0 4.6 3.0 1.0 0.3 2.3 3.0 4.3 1.3 0.0 0.7 0.7 9.8 17.1	40.9 9.0 4.9 2.9 1.3 0.3 0.0 1.0 1.0 0.0 0.6 0.3 0.3 0.3 1.5 20.1	34.7 4.7 6.3 2.7 2.7 1.3 0.7 0.7 3.0 2.3 1.0 0.0 0.0 0.3 1.6 18.7 19.3	23.1 6.3 6.6 2.0 1.3 1.7 1.0 1.3 1.6 0.6 0.3 0.0 0.0 2.9 21.5 29.8
1800 L.C.T.					INCH	ON.						
CALM NNE NE ENE E ESE SE SSE S SSW SW WSW WNW NNW NNW NNW NNW	8.8 6.2 1.3 2.3 1.9 2.3 1.3 3.2 1.6 2.3 1.2 3.2 6.8 11.3 24.9 14.9 6.5	2.8 3.5 1.1 2.8 1.8 0.7 0.7 1.8 2.5 3.2 4.3 8.2 15.2 15.3 22.6 7.1 6.4	3.8 2.9 0.3 2.9 1.6 0.6 0.3 1.6 3.6 3.5 7.7 10.7 19.5 15.9 17.2 5.9 2.0	3.7 2.0 1.0 2.7 2.7 1.0 1.6 1.7 2.0 5.3 10.6 15.7 21.0 13.0 8.7 4.3 3.0	2.3 1.6 0.6 0.6 0.3 0.9 0.6 3.3 10.0 13.0 17.3 25.3 9.4 10.7 3.2 0.3	2.4 2.1 1.3 3.7 0.7 0.3 1.3 2.3 2.0 5.4 11.0 14.5 22.7 10.8 15.4 2.7 1.4	2.9 1.6 1.6 2.6 2.6 0.6 2.2 5.2 11.0 18.3 16.7 13.8 4.2 10.0 3.5 0.6	4.9 4.2 2.9 5.2 3.9 3.2 2.5 3.2 1.6 2.6 6.5 15.3 16.2 7.1 13.0 4.2 3.5	7.4 6.7 4.3 8.0 3.7 1.7 2.7 1.3 2.6 3.3 9.0 13.1 13.3 13.3 5.7 2.6	5.2 1.9 0.9 1.9 1.6 0.6 1.0 0.3 0.6 3.2 4.5 6.8 18.5 18.5 20.4 10.6 3.5	6.7 2.0 2.0 3.0 3.7 1.3 2.6 4.3 3.0 4.3 1.4 9.0 8.4 13.9 19.3 8.8 6.3	8.6 6.6 1.3 3.3 4.0 1.9 3.6 4.2 1.0 0.7 1.6 2.0 4.0 8.9 22.1 17.3 8.9
0600 L.C.T. CALM NNE NE ENE E SSE SSE SSW SW WSW W	8.3 14.5 6.5 4.2 5.2 2.3 4.5 6.4 2.6 0.0 0.3 0.9 0.6 1.6 9.1 15.6 17.4	9.2 10.7 5.0 6.0 5.0 2.5 3.6 5.7 2.9 0.4 0.0 0.4 0.7 5.0 14.2 16.7 12.0	10.7 9.3 2.6 4.2 4.5 4.9 4.8 8.0 7.2 2.9 2.6 0.9 1.9 4.3 11.0 11.1 9.1	11.4 7.7 3.7 7.4 5.7 3.0 7.7 13.2 9.7 3.6 3.4 2.0 1.3 2.7 5.4 5.7 6.4	17.5 4.2 1.9 3.5 5.8 2.9 6.1 13.2 18.4 5.8 3.2 2.9 2.2 2.3 3.3 2.6 4.2	23.6 4.4 3.4 4.7 6.4 4.1 8.5 8.9 9.6 9.4 5.4 2.3 1.0 1.3 1.4 0.6 5.0	20.9 3.5 5.1 5.2 4.8 3.9 6.1 14.3 11.7 13.5 3.5 3.8 0.9 1.0 0.6 0.3 0.9	14.8 8.1 5.8 9.0 10.1 5.1 9.7 12.0 3.9 4.8 3.8 2.6 2.0 2.6 0.9 0.6 4.2	10.0 16.1 11.0 11.2 11.0 5.6 6.3 9.7 1.7 0.7 1.0 0.7 2.3 4.0 2.3 5.4	10.3 12.9 5.8 8.1 13.4 9.7 4.2 7.8 1.0 0.6 0.6 0.9 0.6 1.6 5.0 9.1 8.4	7.4 11.3 5.6 8.0 10.3 6.3 8.0 7.0 1.0 0.6 0.3 1.7 0.3 2.4 6.5 11.3 12.0	5.3 14.1 7.2 7.2 4.6 4.3 8.6 2.6 1.6 0.0 0.6 0.3 0.7 2.0 7.8 11.2 21.9

CLIMATE AND WEATHER

•				TA	ABLE V - 33	Continue	d					
	Jan	FEB	Mar	Apr	MAY	Jun	Jul	Aug	SEP	ОСТ	Nov	DEC
	·				СНЕЈ	U						
1800 L.C.T.								0.5	10.7	171	15.5	10.2
CALM	7.1	4.5	5.8 2.9	8.7 5.5	13.7 5.1	11.5 10.7	9.0 15.6	8.5 10.5	10.7 4.3	17.1 1.9	15.5 1.6	10.2 3.6
NNE NE	2.7 0.7	1.8 3.9	4.5	10.2	10.1	13.2	15.5	10.9	11.0	5.2	2.4	3.0
ENE	1.9	2.9	7.8	8.1	4.2	7.5	7.1	10.5	19.1	9.7	3.4	2.0
E	3.9	8.4	5.8	10.2	6.9	7.1	11.3	7.4	12.6	13.3	12.0 3.0	6.5 2.0
ESE	2.3	2.5	2.9 1.9	4.0 2.6	2.6 3.2	2.7 5.1	2.2 2.3	3.8 2.6	3.0 3.7	1.9 1.9	3.4	2.9
SE SSE	4.9 1.0	1.1 1.8	0.0	1.3	0.3	1.3	1.6	1.9	0.3	0.6	1.7	1.6
S	2.6	0.7	1.2	1.6	1.2	0.7	1.9	1.0	1.0	0.6	3.0	3.0
SSW	1.3	1.1	0.9	0.9	1.2	0.3	0.9	0.9	0.7	1:3	0.3 3.0	1.6 1.0
SW	2.3 0.6	1.8 1.8	1.2 1.3	2.4 2.4	0.9 3.9	2.8 4.1	3.6 3.5	4.5 5.8	1.0 1.7	2.3 2.9	0.7	1.3
WSW W	3.3	4.7	10.1	8.3	13.1	7.1	5.2	10.4	6.0	4.1	3.4	4.2
WNW	4.9	6.0	11.5	10.9	11.5	6.4	5.8	9.1	5.7	5.8	6.4	5.6
NW	17.6	26.3	19.7	12.1	11.7	9.4	5.5	5.5	9.0	12.7	16.1	21.7
NNW	27.3 15.6	17.7 13.0	14.1 8.4	4.0 6.8	4.2 6.2	3.0 7.1	1.9 7.1	1.9 4.8	3.9 6.3	10.0 8.7	12.7 11.4	16.4 13.4
N	15.0	15.0	0.4	0.0	0.2	7.1	7.12	1.0	0.5			
0600 L.C.T. CALM	2.3	1.7	3.7	9.4	12.5	19.9	23.5	11.7	3.7	2.9	6.1	3.0
NNE	2.6	1.7	2.0	2.7	2.0	1.0	1.6	0.6	1.7	1.9	2.0	2.3
NE	1.6	0.7	1.6	1.7	1.3	2.7	2.5	1.6	3.4	3.2	1.7	2.3
ENE	1.0	1.5	3.0	3.7	3.3	8.2	6.1	7.2	5.5 13.0	3.6 5.8	1.3 4.7	2.7 2.0
E ESE	2.9 2.9	4.6 1.8	6.2 3.9	11.1 3.7	10.3 3.0	12.5 7.0	9.5 3.5	7.9 7.1	8.1	3.5	3.1	1.3
SE SE	4.8	8.9	13.1	13.1	9.3	7.8	11.6	15.0	15.7	14.8	15.2	8.5
SSE	9.2	9.9	9.2	10.1	12.5	10.6	15.5	18.9	19.0	21.3	14.2	13.1
S	4.8	5.0	10.8	12.8	13.1	8.0	6.2 3.6	8.5 3.8	9.1 2.3	10.7 2.6	5.8 1.4	5.3 2.7
SSW SW	0.3 1.3	1. 1 1. 4	2.9 5.9	5.1 5.1	3.3 9.6	5.0 7.1	7.4	5.8	4.4	1.9	3.4	1.4
wsw	0.9	0.7	2.6	4.1	6.9	4.0	4.2	3.2	1.3	0.6	1.4	1.7
W	2.2	2.5	2.0	3.8	6.6	3.7	2.6	4.9	1.1	1.0	3.1	1.0
WNW	5.1	4.3	3.5	3.0	2.0	1.6 0.0	0.6 0.0	0.6 0.3	1.3 2.4	1.6 3.9	3.4 8.1	3.3 18.4
NW NNW	15.3 22.5	20.1 18.7	12.1 11.0	4.3 3.3	2.6 1.0	0.3	0.0	0.3	4.0	6.8	14.6	13.8
N	20.3	16.0	6.5	3.0	0.7	0.6	1.6	2.6	4.0	13.9	10.5	17.2
					TABLE	3 V - 34						
		AVERAGI	E NUMBE	ER OF DA	YS WITH	VARIO	us wini	SPEED	GROUP	S		
	Jan	FEB	Mar	Apr	MAY	Jun	Jul	Aug	SEP	OCT	Nov	DEC
					SON	GJIN						
1800 L.C.T.							44.0	400	** 0	(0		(2
0- 3 m.p.h.	5.6		5.5 16.8	5.4 14.8	7.8 15.7	9.6 17.4	11.0 16.6	10.8 15.6	7.0 17.7	6.9 17.8	5.5 19.8	6.3 21.2
4-12 m.p.h. 13-31 m.p.h.	19.9 5.4		8.5	9.6	7.4	3.0	3.4	4.6	5.3	6.3	4.5	3.4
32-54 m.p.h.	0.1		0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1
0600 L.C.T.												
0- 3 m.p.h.	5.3	5.5	10.9	14.5	15.8	19.4	21.8	17.2	11.0	10.5	8.0	4.5
4-12 m.p.h.	22.4	20.2	17.4	14.0	14.6	10.2	8.7	12.6	17.5	19.2	19.1	22.3
13-31 m.p.h.	3.2		2.7	1.5	0.5	0.4	0.4	1.2	1.5 0.0	1.3 0.0	2.7	4. 1 0. 1
32-54 m.p.h.	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.1
					WONS	SAN						
1800 L.C.T.		0.7	0.7	7 2	6.6	5.5	8.7	10.4	7.8	8.9	8.1	9.4
0- 3 m.p.h. 4-12 m.p.h.	7.3 20.4		8.6 19.0	7.3 18.8	19.6	23.9	21.3	19.6	21.2	20.6	19.4	19.1
4-12 m.p.n. 13-31 m.p.h.	3.3		3.4	3.9	4.8	0.6	0.9	1.0	1.0	1.5	2.5	2.5
32-54 m.p.h.	0.0		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
0600 L.C.T.												
0- 3 m.p.h.	8.6		11.8	13.8	15.5	17.9	17.3	15.7	10.0	10.6	9.4	10.8
4-12 m.p.h.	19.8	16.9	17.6	15.6	14.2	11.9	13.2	14.1	19.2	19.4	18.7	17.4
13-31 m.p.h.	2.5		1.6	0.6	1.3	0.2 0.0	0.4 0.1	1.1 0.1	0.8 0.0	1.0 0.0	1.9 0.0	2.7 0.1
32-54 m.p.h.	0.1	0.1	- 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1

				ተ	ABLE V - 3 ²	1 Continue						
	Jan	Fев	Mar	Apr	MAY			4	C	0		_
	JAIN	PEB	MAK	71FR	KANGI	JUN	JUL	Aug	SEP	OCT	Nov	DEC
1800 L.C.T.					1011101	.10110						
0- 3 m.p.h.	9.0	9.7	9.5	7.5	12.6	15.8	18.2	19.1	18.4	19.2	10.2	9.0
4-12 m.p.h. 13-31 m.p.h.	15.3 6.7	14.7 3.9	16.9 4.6	18.3 4.1	15.4 3.0	13.4 0.8	12.1	11.6	11.1	10.4	15.9	16.7
32-54 m.p.h.	0.7	0.0	0.0	0.1	0.0	0.0	0.7 0.0	0.3 0.0	0.5 0.0	$\frac{1.4}{0.0}$	3.8 0.1	5.2 0.1
0600 L.C.T.										0.0	0.1	0.1
0- 3 m.p.h.	3.5	6.0	8.9	10.3	13.9	18.1	19.3	18.5	10.0	4.1	4.8	5.4
4-12 m.p.h.	20.3	18.2	16.9	16.7	13.8	10.9	10.8	12.2	19.2	24.3	21.4	19.2
13-31 m.p.h.	7.0 0.1	4.1 0.0	5.2	3.0	3.3	1.0	0.9	0.3	0.8	2.6	3.8	6.3
32-54 m.p.h.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1800 L.C.T.					PUS	AN						
0- 3 m.p.h.	5.7	4.9	2.0	2.7	3.6	3.5	3.2	3.6	5.0	0.0		
4-12 m.p.h.	21.8	19.7	23.4	21.9	24.7	23.6	24.1	24.2	21.5	9.9 18.0	8.9 18.8	5.5 20.9
13-31 m.p.h.	3.5	3.7	5.6	5.3	2.6	2.9	3.7	3.2	3.5	3.1	2.3	4.5
32-54 m.p.h.	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0600 L.C.T.												
0- 3 m.p.h.	4.5	5.2	6.3	9.6	14.6	14.0	10.3	14.3	11.0	11.0	8.7	5.0
4-12 m.p.h. 13-31 m.p.h.	19.5 7.0	15.9 7.2	17.2 7.5	16.4 3.8	13.9 2.5	13.8 2.2	16.3 4.3	13.6 3.0	15.2 3.8	16.6 3.3	16.1 5.0	18.3
32-54 m.p.h.	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.0	0.1	0.2	7.5 0.2
					MOK	'D'O						
1800 L.C.T.				*	MOR	PO						
0- 3 m.p.h.	1.8	1.2	2.0	2.0	2.0	2.9	2.7	3.8	2.2	2.5	3.1	2.6
4-12 m.p.h.	13.4	12.0	12.7	17.3	21.3	23.6	23.7	23.4	20.8	18.0	17.2	15.5
13-31 m.p.h. 32-54 m.p.h.	15.5 0.3	15.1 0.0	16.1 0.2	10.6 0.1	7.7 0.0	3.5 0.0	4.6 0.0	$\frac{3.4}{0.4}$	7.0 0.0	10.3	9.6	12.5
0600 L.C.T.		5.5	v. <u>-</u>	0.2	0.0	0.0	0.0	0.4	0.0	0.2	0.1	0.4
0- 3 m.p.h.	6.7	6.1	7.1	9.4	11.0	14.2	11.0	12.0	11.6	12.6	10.4	7.0
4-12 m.p.h.	15.6	12.9	15.1	15.5	16.9	14.0	16.5	16.6	15.5	14.2	10.4 13.9	7.2 15.7
13-31 m.p.h.	8.4	8.9	8.5	5.0	3.1	1.8	3.5	2.3	2.6	4.0	5.5	7.8
32-54 m.p.h.	0.3	0.4	0.3	0.1	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.3
1800 L.C.T.					INCH	'ON						
0- 3 m.p.h.	2.7	0.8	1.2	1.1	0.7	0.7	0.9	1.5	2.2	1.6	2.0	2.7
4-12 m.p.h.	19.2	17.6	17.7	18.0	21.2	25.6	25.8	24.7	21.4	1.6 22.2	2.0 19.0	2.7 20.6
13-31 m.p.h.	8.9	9.9	11.8	10.8	8.9	3.7	4.3	4.8	6.4	7.1	8.9	7.7
32-54 m.p.h.	0.2	0.0	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0
0600 L.C.T.	2.6	2.6										
0- 3 m.p.h. 4-12 m.p.h.	2.6 20.6	2.6 19.2	$\frac{3.3}{20.4}$	3.4 21.0	5.4 22.1	7.1 20.9	6.5 20.2	4.6	3.0	3.2	2.2	1.6
13-31 m.p.h.	7.8	6.4	7.1	5.5	3.5	2.0	4.3	22.5 3.8	24.2 2.8	23.7 4.1	20.7 7.0	22.7 6.7
32-54 m.p.h.	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
												•
					СНЕ	IU						
1800 L.C.T.						-						
0- 3 m.p.h.	2.2	1.3	1.8	2.6	4.2	3.4	2.8	2.6	3.2	5.3	4.6	3.2
4-12 m.p.h.	12.0	12.3	13.0	14.0	18.8	16.7	19.3	17.9	18.2	16.2	15.4	13.1
13-31 m.p.h. 32-54 m.p.h.	15.7 1.1	13.6 1.1	15.3 0.9	12.8 0.6	8.0	9.9	8.9	9.9	8.5	9.3	9.4	13.2
_	1.1	1.1	0.7	0.0	0.0	. 0.0	0.0	, 0.6	0.1	0.2	0.6	1.5
0600 L.C.T. 0- 3 m.p.h.	0.7	0.5	1 2	20	2 0	60	7.3	2.				
4-12 m.p.h.	0.7 11.9	12.9	1.2 17.9	2.8 20.4	3.8 21.8	6.0 18.7	7.3 18.4	3.6 21.8	1.1 23.4	0.9	1.8	0.9
13-31 m.p.h.	16.9	13.5	10.7	6.2	5.3	4.8	4.8	5.2	5.3	22.3 7.5	18.3 9.4	14.5 13.6
32-54 m.p.h.	1.5	1.4	1.2	0.6	0.1	0.5	0.5	0.4	0.2	0.3	0.5	2.0

						M	x† 25							
				MA	XIMUM	TABLE WIND S	1	M.P.H.)						
STATION	Jan	Гев	Mar	Apr	MAY	Jun	Jul	Aug	SEP	ОСТ	Nov	DEC	Ann	Yrs Rec
Unggi Songjin Wonsan Kangnung Pusan Taegu Mokp'o Chonju Inch'on Kyongsong P'yongyang Yongamp'o Sinuiju Chunggangjin Ch'osan Cheju	70 50 33 40 43 32 48 26 48 23 29 42 32 19 13 56	68 47 28 46 42 33 44 32 43 25 31 35 35 31 35 35	62 43 33 48 45 39 57 26 47 35 36 43 30 30 17 60	58 57 39 55 47 32 50 22 49 34 41 48 31 32 18	96 40 37. 55 63 38 48 25 48 28 36 40 34 33 14 42	43 40 29 32 29 25 45 22 48 22 29 41 23 28 20 36	101 47 42 38 30 44 27 77 17 50 26 25 48 27 32 9 42	44 35 36 35 36 30 54 21 47 27 36 38 22 19 9	58 53 48 42 48 36 71 20 76 29 22 32 25 24 12 49	59 37 41 49 35 30 50 20 54 26 29 40 33 26 14	70 40 46 40 43 33 75 27 64 29 30 46 36 29 12 47	78 40 30 44 40 32 46 27 54 22 28 37 45 24 11 58	96 57 48 55 63 39 77 32 76 35 41 48 45 33 20 80	15 24 25 18 25 22 25 20 25 22 22 24 5 15 4
											•			
						TABLE	V - 36							
	AVER	AGE N	UMBER (OF DAYS	WITH	WIND SI	PEED EX	KCEEDIN	JG 22 N	f.P.H. A	ND 33 1	М.Р.Н.*		
STATION	Jan	FEB	MAR	Apr	May	Jun	Jul	Aug	SEP	ОСТ	Nov	DEC	Ann	YRS REC
Unggi												40.5	40=4	
> 22 > 33	20,4 9.6	17.1 5.2	16.9 5.8	12.1 4.2	7.7 3.8	2.9 0	1.7 0.2	2.5 0.2	6.6 1.4	13.1 4.2	16.7 7.6	19.5 7.2	137.1 49.1	15 5
Taegu	1.4	1.0	7.2	1 7	0.9	0.1	0.3	0.7	0.3	0.3	1.3	1.7	12.9	15
> 22 > 33	1.4 0	1.9 0	2.3	1.7 0	0.9	0.1	0.5	0.7	0.5	0.5	0	0	0	.5
Chonju									0		0.4	0.7	2.0	_
> 22° > 33	0.2	0	1.0 0	0.6 0	0.2	0.2	0	0	0	0	0.6	0.4	3.2	5 5
Kyongsong			2 =	2.2	2.0	0.2	20	1.0	1.0	0.7	1.2	0.2	17.0	<
> 22 > 33	0	0.3 0.1	3.7 0.1	2.3 0.2	2.0 0.2	2.3	2.0 0.3	1.0	0.1	0.7	1.3 0.3	0.3	1.3	5 15
P'yongyang		0.4	2.0	2.6	1.6	0.8	0.8	0.2	0.2	0.4	0.2	0.6	10.0	5
> 22 > 33	0	0.4	0	0	0.2	0.8	0.2	0.2	0.2	0.4	0	0	0.6	5
Yongamp'o > 22 > 33	10.0	9.3	13.3	15.3	16.3	11.3	8.3	6.0	6.3	9.7	12.0	10.0	129.8	15
Sinuiju	1.0	2.6	2.2	4.2	2.6	0.6	0.6	0.4	0.6	1.0	3.6	2.4	22.6	5
> 22 > 33	1.8	2.6 0.2	0	0	0.2	0.0	0.0	0	0.0	0	0.2	0.4	1.0	5
Chunggangjin > 22 > 33	0	0 0	0.3	1.3	0.7	0.3	0.2	0 0	0	0.2	0.5	0.4	3.9	15 5
Ch'osan														

Table V - 37 PREVAILING WIND DIRECTION*

Station	Jan	FEB	MAR	Apr	MAY	Jun	Jul	Aug	SEP	ОСТ	Nov	DEC	Ann	YRS REC	
Unggi**	NNW	NNW	NNW	NNW	SSE	SSE	SSE	SSE	NNW	NNW	NNW	NNW	NNW	. 5	
Songjin	NW	NW	NW	S	S	S	S	S	NW	NW	NW	NW	NW	10	
Wonsan	W	W	W	W	W	NE	E	SW	SW	SW	W	W	W	10	
Kangnung	SW	sw	SW	SW	SW	sw	· SW	SW	W	W	SW	SW	SW	9	
Pusan	N	N	N	N	W	NE	S	N	N	N	N	NW	N	10	
Taegu	W	W	W	W	W	W	W	W	W	W	W	W	W	10	
Mokp'o	N	N	N	N	N	NW	S	S	N	N	N	N	N	10	
Chonju**	WNW	WNW	W	W	W	W	SSE	NW	W	W	WNW	NW	W	10	
Inch'on	NW	NW	NW	W	W	W	SW	W	NE	NW	NW	N	NW	10	
Kyongsong**	WNW	WNW	W	WSW	WSW	WSW	WSW	ENE	ENE	W	WNW	WNW	W	10	
P'yongyang	NW	NW	NW	NW	Ŵ	W	E	E	E	SE	NW	NW	NW	20	
Yongamp'o	N	N	N	S	S	S	S	NE	NE	NE	N	N	N	15	
Sinuiju**	NNE	NNW	NNW	S	S	S	S	SSW	NNE	NNE	NNE	NNE	NNE	5	
Chunggangjin	NE	NE	SW	SW	SW	SW	SW	sw	SW	SW-	Е	E	sw	20	
Ch'osan	S	SW	NE	S	S	S	S	S	S	S	S	S	S	5	
Cheju	NW	NW	NW	NW	W	NE	NE	NE	E	N	NW	NW	NW	10	

^{*} to 8 directions except where noted.
** to 16 directions.

E. Upper air winds.

The direction, frequency, and velocity of winds aloft are shown on Figures V-12 to V-18 (pages V-18 through V-21).

F. Cloudiness.

Tables V - 38, V - 39, and V - 40 present data on average amount and frequency of cloudiness for selected stations in Korea.

TABLE	V - 38
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					MEAN	CLOUI	DINESS	(%)*						
STATION	Jan	FEB	Mar	Apr	MAY	Jun	Jul	Aug	SEP	ОСТ	Nov	DEC	Ann	Yrs Rec
Unggi	-33	39	50	60	73	76	81	73	57	45	44	38	56	15
Songjin	42	41	47	57	67	72	78	70	55	44	43	38	54	24
Wonsan	34	36	45	55	62	69	76	.71	60	43	38	32	52	25
Kangnung	37	43	49	60	66	70	75	68	67	47	40	36	55	18
Pusan	37	43	51	57	59	7.2	70	59	65	44	39	34	53	24
Taegu	40	45	52	58	60	71	72	65	65	47	41	41	55	22
Mokp'o	65	64	60	59	62	73	74	61	63	49	55	65	63	25
Chonju	56	57	56	57	66	71	78	66	62	47	53	61	61	11
Inch'on	43	44	. 50	55	59	67	74	64	56	43	44	45	54	30
Kyongsong	44	44	51	57	61	67	76	66	58	44	44	44	55	22
P'yongyang	35	39	45	55	61	66	78	76	55	40	45	39	53	20
Yongamp'o	33	35	43	52	58	64	74	62	48	38	38	33	48	24
Sinuiju	33	36	46	59	63	72	82	72	49	40	44	36	53	5
Chunggangjin	36	39	52	61	67	68	73	70	64	47	51	44	56	20
Ch'osan	33	36	49	56	64	66	66	65	60	42	46	32	51	4
Izuhara	54	58	61	63	64	77	75	65	71	55	50	51	62	30
Cheju	86	81	64	64	62	69	64	61	66 -	61	68	83	70	10

^{*} Mean of the 0600, 1400 and 2200 observations.

TABLE V - 39 AVERAGE NUMBER OF CLEAR DAYS (0-20% CLOUD COVER)

														Yrs
STATION	Jan	FEB	Mar	Apr	MAY	Jun	Jul	Aug	SEP	OCT	Nov	DEC	Ann	REC
Unggi	13.4	9.6	7.0	4.0	2.1	1.4	1.1	3.0	5.9	9.7	9.7	11.5	78 .4	15
Songjin	11.4	10.8	9.1	5.5	2.8	1.8	1.3	2.8	5.8	9.7	10.3	13.5	84.8	24
Wonsan	15.0	14.0	10.0	6.0	4.0	3.0	2.0	3.0	5.0	10.0	11.0	16.0	99.0	25
Kangnung	13.3	10.3	8.6	5.0	3.9	3.2	2.5	3.8	3.4	9.8	10.7	14.0	88.5	18
Pusan	12.0	9.0	8.0	6.0	5.0	2.0	3.0	6.0	4.0	9.0	12.0	13.0	89.0	25
Taegu	10.4	8.6	7.6	5.0	4.6	2.7	1.9	3.6	3.9	8.5	10.3	10.8	77.9	22
Mokp'o	3.0	3.0	5.3	4.2	4.0	2.6	1.4	• 3.4	5.2	6.8	5.2	2.7	46.8	20
Chonju	4.7	5.5	6.3	5.4	3.5	3.4	0.9	3.1	4.1	8.6	6.0	4.0	55.5	11
Inch'on	10.4	9.8	8.1	6.0	4.8	2.7	1.7	3.7	6.0	8.8	8.9	9.2	80.1	25
Kyongsong	10.0	8.0	7.0	5.0	3.0	3.0	2.0	3.0	5.0	8.0	8.0	9.0	71.0	22
P'yongyang	12.0	11.0	10.0	6.0	4.0	2.0	2.0	3.0	6.0	10.0	9.0	11.0	86.0	22
Yongamp'o	14.5	12.4	10.0	6.9	4.7	3.4	2.0	4.0	8.4	11.4	11.2	14.0	102.9	24
Sinuiju	15.0	12.6	8.4	5.0	3.8	1.6	0.4	2.0	6.2	11.2	9.2	13.2	88.6	5
Chunggangjin	12.0	9.0	7.0	4.0	2.0	2.0	1.0	2.0	2.0	8.0	7.0	10.0	66.0	15
Ch'osan	15.3	12.3	6.5	5.3	2.0	2.3	3.5	3.5	5.3	9.0	8.3	15.8	89.1	5
Izuhara	6.0	4.0	5.0	4.0	4.0	2.0	2.0	4.0	2.0	6.0	7.0	6.0	52.0	30
Cheju	0.7	0.5	3.3	3.6	4.9	2.9	3,3	2.8	2.1	3.7	2.8	0.8	31.4	10



		8				TABLE								
		A	VERAGI	E NUMB	ER OF C	LOUDY	DAYS (80-100%	CLOUD	COVER	L)			
STATION	Jan	FEB	MAR	Apr	MAY	Jun	JUL	Aug	SEP	Ост	Nov	DEC	Ann	Yrs Rec
Unggi	3.1	4.6	7.8	10.3	16.1	16.9	19.9	18.0	9.8	7.1	6.4	4.5	124.5	.15
Songjin	6.8	6.0	7.5	9.4	13.3	15.3	18.2	15.1	9.6	6.5	6.3	5.7	119.7	24
Wonsan	5.0	5.0	8.0	10.0	12.0	14.0	19.0	16.0	11.0	6.0	5.0	4.0	115.0	25
Kangnung	5.4	6.7	8.9	11.3	13.3	14.9	17.6	15.3	13.8	8.4	4.9	5.3	125.8	18
Pusan	4.0	5.0	5.0	9.0	10.0	12.0	16.0	16.0	12.0	13.0	6.0	6.0	114.0	25
Taegu	5.2	6.3	8.8	10.3	11.0	15.5	15.8	13.4	13.0	7.1	5.5	5.1	117.0	22
Mokp'o	13.4	12.0	11.4	12.5	13.2	17.2	18.2	12.2	12.3	6.9	9.9	14.2	153.4	20
Chonju	8.1	8.8	10.1	10.5	12.9	15.3	18.8	12.6	11.8	7.1	8.3	11.5	135.8	11
Inch'on	6.4	5.8	8.0	9.4	11.4	12.6	16.3	11.8	9.4	5.6	5.2	5.3	107.2	25
Kyongsong	7.0	6.0	8.0	10.0	10.0	12.0	18.0	13.0	10.0	6.0	5.0	6.0	111.0	22
P'yongyang	5.0	5.0	7.0	9.0	10.0	12.0	18.0	15.0	9.0	5.0	5.0	5.0	105.0	22
Yongamp'o	3.8	4.7	6.4	8.6	10.1	12.4	17.2	11.8	7.5	4.4	4.4	4.6	95.9	24
Sinuiju	5.2	6.0	7.8	11.4	13.2	15.2	20.6	15.2	7.4	5.8	6.4	5.4	119.6	5
Chunggangjin	5.0	6.0	9.0	10.0	13.0	.12.0	15.0	14.0	12.0	8.0	8.0	7.0	119.0	15
Ch'osan	6.0	3.8	6.8	7.5	11.5	11.5	12.5	12.5	11.3	4.5	6.5	3.8	98.2	4
Izuhara	9.0	9.0	12.0	13.0	14.0	19.0	18.0	14.0	15.0	9.0	7.0	7.0	146.0	30
Cheju	24.6	18.9	14.3	12.8	12.9	16.0	13.6	11.6	14.9	11.9	14.4	21.8	187.0	10

G. Turbulence.

Turbulence at higher levels in the atmosphere is almost entirely a function of the degree of convective activity. Data on thunderstorm frequency (TABLE V-41) indicate the seasonal and regional variations of intense convection.

Mechanical turbulence in the surface layers, related to surface wind velocity and topography, is probably most intense in winter when wind speeds are generally highest.

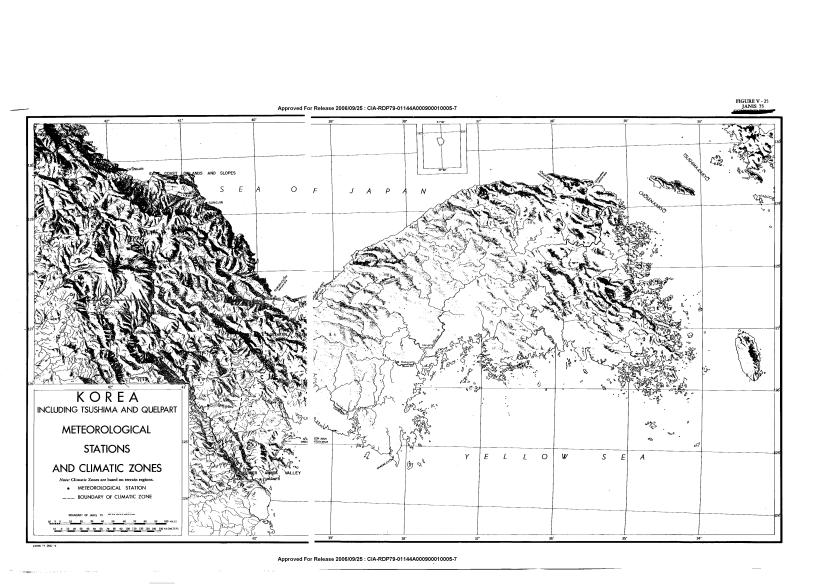
<u>. </u>									1		, ,	0		
·			ME	ANT NITT	ACDED O	TABLE		er er er er e	TROTTOR					
			ME	AN NU	MBER O	F DAYS	WITH	THUND	ERSTOR	MS				YRS
Station	Jan	FEB	MAR	Apr	May	Jun	Jul	Aug	SEP	ОСТ	Nov	DEC	Ann	REC
Unggi	0	0	0	0.1	0.9	2.0	1.3	1.5	1.0	1.1	0.1	- 0	7.9	15
Songjin	0	0	0	0.1	1.3	2.0	0.8	1.4	0.9	1.1	0.1	0	7.7	15
Wonsan	0.1	0	0	0.2	1.1	2.1	2.5	2.4	0.8	1.1	0.1	0	10.4	15
Kangnung	0	0	. 0	0.2	1.1	1.7	1.5	1.1	0.4	0.3	0.1	0	6.4	15
Pusan	0.1	0.1	0.3	0.5	0.6	0.7	0.9	1.4	1.2	0.5	0.7	0.1	6.6	15
Taegu	0	0.1	0.1	0.7	0.8	1.6	3.1	3.2	1.3	0.4	0	0	11.3	15
Mokp'o	0.1	0.1	0.4	0.7	0.7	0.6	2.4	2.5	1.2	0.9	0.7	0.1	10.4	15
Inch'on	0	0	0.1	0.4	0.5	0.8	1.3	2.1	0.4	0.3	0.4	0	6.3	21
Kyongsong	0	0	0.3	0.9	1.1	1.9	2.8	-2.3	1.1	0.9	0.9	0.2	12.4	15
P'yongyang	0	0.1	0.1	0.7	1.2	1.5	2.9	2.3	1.7	1.6	0.3	0.1	12.5	15
Yongamp'o	0	0.	0	0.8	1.8	3.2	3.0	2.0	2.2	2.0	0.2	0	15.2	20
Sinuiju	0	0	0	0.8	2.4	4.6	3.6	1.8	4.0	4.0	1.0	0	22.2	5
Chunggangjin	0	0	. 0	0.3	2.9	6.7	4.9	3.2	1.9	0.7	0.1	0	20.7	15
Ch'osan	0	0	0	0.4	3.8	6.2	3.8	3.0	1.2	1.5	0	0	19.9	4
Cheju	0.1	0.3	0.7	0.5	0.4	0.3	1.5	2.6	0.7	0.5	0.7	0.1	8.4	10
TT 371-11-111														
H. Visibility.														
					:	TABLE								
				MEA	N NUM	BER OF	DAYS W	VITH FO	G*					
STATION	Jan	FEB	Mar	Apr	MAY	Jun	JUL	Aug	SEP	ОСТ	Nov	DEC	Ann	Yrs Rec
Unggi	0.2	0.6	1.5	4.3	8.5	10.9	10.5	2.9	0.3	0.3	0.4	0.2	40.6	15
Songjin	0	0	0.7	2.8	5.8	7.3	7.5	1.6	0.5	0.5	0.1	0.2	25.7	24
Wonsan	0.1	0.3	0.6	1.0	2.0	2.0	2.0	0.6	0.1	0.1	0.2	0.2	9.2	29
Kangnung	0	0.1	0.3	0.4	1.3	1.6	1.7	0.3	0.3	0.1	0	0	6.1	18
Pusan	0.4	0.5	0.6	1.3	2.5	3.2	3.3	0.6	0.2	0.1	0.4	0.4	13.5	20
Taegu	1.3	0.8	0.4	0.6	0.7	0.6	0.5	1.2	2.2	2.9	3.1	1.5	15.8	22
Mokp'o	0.7	0.8	1.8	2.3	2.5	3.6	4.2	0.8	0.9	0.3	0.4	0.5	18.8	25
Chonju	0.4	1.0	1.0	1.2	1.3	0.5	0.7	0.4	1.2	0.9	1.0	0.6	10.2	11
Inch'on	1.5	1.0	3.0	4.0	6.0	8.0	10.0	3.0	1.0	0.9	0.9	1.0	40.0	30
Kyongsong	1.5	1.2	0.9	1.0	1.8	0.9	1.7	1.6	1.7	1.6	1.3	1.5	16.7	22
P'yongyang	2.4	0.9	1.4	1.6	2.1	1.6	1.7	4.2	2.0	3.9	2.8	1.6	26.2	22
Yongamp'o	0.5	0.8	1.8	1.8	2.4	2.8	4.4	2.2	0.8	1.2	0.9	0.6	20.2	24
Sinuiju	3.2	2.4	4.4	4.4	3.0	2.2	6.8	5.6	6.0	4.2	4.4	2.8	48.4	5
Chunggangjin	3.3	1.2	0.3	0	0	0	0.3	0.9	0.3	0.3	0.4	3.4	10.7	15
Ch'osan	0	0.8	0.5	1.3	0.5	1.0	0.5	3.3	4.5	2.8	1.8	0.3	17.3	4
Izuhara	0.8	1.0	1.6	2.4	2.3	4.6	2.9	1.1	0.9	1.1	1.1	1.0	20.8	30
Cheju	0	0.1	0.3	1.5	3.4	3.3	2.6	0.7	0.1	0.2	0.1	0	12.3	10
• Less than 3/8 mile.			-	•	-									



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